plane
GRUMMAN
news

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June 11, 1971

The F-14 Tomcat— 'a real pilot's aircraft... he feels a part of it'

The view from here...

That man with the unusual nickname of "Swoose" was in the news recently. "Swoose," more formally referred to as Capt. L. A. Snead, is captain of the carrier Forrestal and was selected for the rank of rear admiral a couple of weeks ago. To his many friends at Grumman it was a likely choice. Anyone familiar with the "growing pains" of the A-6 all-weather attack plane in the early '60s will remember "Swoose" Snead. There were a number of disbelievers—both inside and outside the Company—in those days. "Swoose" was **not** one of them; he believed. In fact, when he was skipper of the first Intruder squadron, VA-42, he predicted that the A-6 would be a winner. He was right. His many friends will attest that he was a winner long before that. Congratulations, "Swoose"!

Salute to vamps

Volunteer firemen were much in evidence during community services marking Memorial Day. And a number of Grummanites serving as chiefs of their departments were leading the firemen's segment in those parades. As a matter of record, does any one know how many volunteer fire chiefs there are at Grumman? If you know of any, how about sending their names, Grumman department and plant, and community fire department they belong to. They, and all other volunteer firemen, deserve a salute for their continued community service. Mail to Plane News, Plant 5.

Happy landing

There must have been a small sigh of relief when Lt. Col. John Manzione and Maj. Dick Tinsley returned to their Marine base in Vietnam recently following an A-6 combat mission. Manzione, commanding officer of Marine All-Weather Attack Squadron 225, and Tinsley, his executive officer, took on the chore of flying the final mission in Vietnam for the squadron. Their safe return assured the completion of 2½ years in Vietnam for the squadron without having lost a man or an airplane in combat during that time. . . . Friends of Cdr. Glen (Corky) Lenox, former asst. F-14 project manager for the Navy, sending best wishes to him on his new assignment: Commander Attack Carrier Air Wing 14. He succeeded Capt. Jim Tyson in ceremonies aboard the USS Enterprise.

Back from Harvard

If you want to trigger a half-hour dissertation on balance sheets and annual reports, ask Bill Byas about the four-month course he just completed at Harvard Business School. Bill, who is staff assistant to Vice President Tom Rozzi, joined about 150 young business executives from the United States and 23 foreign countries to participate in the Program for Management Development at the Harvard Graduate School of Business. Among the courses studied were marketing, finance, quantitative analysis, business logistics, and human behavior. An engineer by training before he joined Rozzi's staff, Bill is back in Plant 28 again, and if you have any questions on hidden assets. . . .

Bridging the gap

There are some who claim that the generation gap is really a chasm, but Dan Knowles seemed to take bridging that gulf in stride recently while speaking to members of the National Honor Society in Yonkers a couple of weeks ago. Dan, who's director of Personnel, spoke to about 75 high school students at a dinner-dance for the national society's eight chapters in the Yonkers area. His talk was on "Care and Incentive" and it proved a hit, reports Dick Teller of Plant 14 who helped arrange the event.

Explorers crossing new frontiers

Some explorers **really** explore!

Take Mark Landress. A member of Grumman Aerospace Explorer Post 1000, he came in for the annual Charter Presentation night ceremonies recently with a heart-lung machine he'd developed on his own.

Dr. Roy Fagin of the Company's Medical Department took a long laudatory look at it and said that Mark had "rediscovered the bubble oxygenator heart-lung system, a really remarkable achievement since he worked it all out by himself. He has a great intuitive sense for how things work.

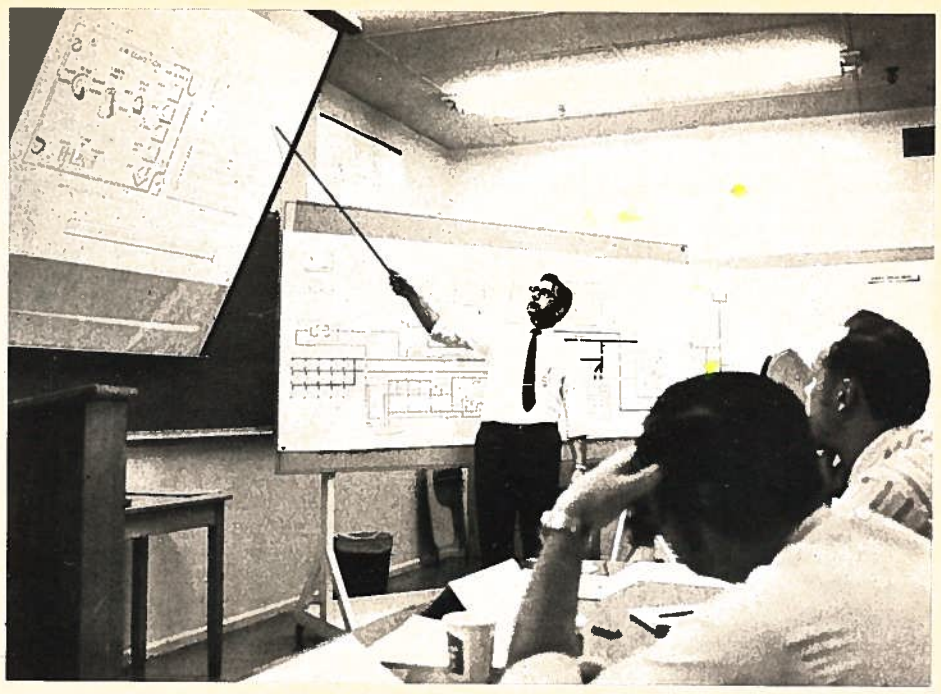
"And he constructed the apparatus, which is used for oxygenation of blood during heart surgery, from simple every-day items. The boy has a wonderful imagination."

Naturally, the machine won top award in the Post 1000 contest.

Nor was that all that occurred on Charter night, during the seventh year of the Post's existence. The Explorers heard about Grumman's College Co-op program from Wendell Bodden of Corporate Training and Development.

Explorer Post 1000 is engineering oriented and came into existence through the auspices of Bill Schwendler Sr., Chairman of the Executive Committee of Grumman Corporation. The Post's prime purpose is to counsel boys interested in engineering careers.

Other Grummanites heavily involved in Post activities include Vice President Jack Rettaliata, institutional representative Fred Hawkins of Public Affairs, Joe Longo, Post committee chairman, and Ernie Treubig, Post adviser.



'Take it from the top.' **Grumman instructor Charlie Brigando conducts F-14A familiarization training for Navy members of Fleet Replacement Aviation Maintenance Personnel (FRAMP) team. AMSC Fred Wheetly and ATC Dick Stotts were among seven who visited Grumman. They're getting total training for maintaining F-14A in the Fleet. (Photo by Fred Annette)**

Navy calls for expanded program to train F-14 maintenance techs

Nothing stands still. And with the advent of the F-14 Tomcat, the Navy with Hughes Aircraft and Grumman are working together on a maintenance training program with the arresting acronym of FRAMP: Fleet Replacement Aviation Maintenance Personnel. Back of this very extensive training program are many months of study by Grumman, dedicated to the proposition that F-14 maintenance will be best if each maintenance technician knows precisely what he is required to do to maintain his particular system in the aircraft.

This is the first time a customer has been asked to present to the Navy a total maintenance training program of such magnitude. Grumman Training, Publications, Support—the whole orchestration of Integrated Logistic Support—contribute their special skills to the planning and implementation of this vastly expanded program.

In April Grumman was awarded a contract for the FRAMP "definition phase," to be completed at the end of this year. As developed by Charlie Young, Fred Atkin, Brian Boucher, and Steve Kertesz, who report to Bill Borruso, F-14 Training manager, "definition" identifies for each F-14 maintenance man his personal responsibilities, calls out equipment he must use and maintain, and provides a syllabus for this training and a means to measure his achievement.

New concept

Subsequent "development" and "implementation" phases will do just what the titles imply, culminating in an F-14 FRAMP training curriculum that is self-sufficient all the way to Operating Squadrons. Until FRAMP, the Navy handled its own RS and OS maintenance training this way: A trainee was ordered to a Readiness Squadron where he was assigned to NAMTRADET (Naval Aviation Maintenance Training Detachment) for formal Navy classroom training. Upon completion he returned to the RS for practical on-the-job training and then moved to an Operating Squadron for permanent assignment. With the new FRAMP contract, Grumman and Hughes will work hand-in-hand with the Navy to assist in providing a complete training program, using the most advanced training techniques and media for the trainee, thereby extending Grumman quality and F-14 effectiveness.

"This melds Grumman's training expertise and its F-14 knowledge with the Navy's Fleet experience and Hughes' AWG-9 training knowhow," says Charlie Young, manager of the Grumman team. Young brings to his job 25 years of Navy aviation maintenance experience, and Fred Atkin, assistant manager, has had 12 years of such experience, most of it with Grumman. They report through Bill Borruso to Dean Swain, Grumman Integrated Logistic Support manager.

The Navy Team leader and FRAMP Program manager is Lt. Cdr. Paul McCleary, whose team is comprised of seven hand-picked enlisted men with a total of 91 years of fighter/attack experience. Their Grumman counterparts will eventually number 14, assigned to Readiness Squadrons at Miramar on the West Coast or Oceana on the East. By the time the F-14 is operational, 200 maintenance technicians will be required for shore-based operations alone.

Commander McCleary, upon completion of the Bethpage visit by his FRAMP members, expressed it this way: "It appears for the first time the Navy, under FRAMP, will have standardized maintenance that will be applicable not only to the F-14 but to other, future aircraft."

Space Shuttle team's hopes high as final NASA report prepared

Vice President Larry Mead, director of the Space Shuttle (Spaceplane) Program, puffed comfortably on his briar pipe as he talked last week about developments in this major space program.

"We're coming to the end of our contract," Mead said. "We're busy on final reports and wrapping up the year's work. All reports go to NASA the end of this month. By the end of July we'll know what the basic concept is to be: heat-sink-external-fuel-tank design, or our competitors' concept with internal tanks, or some other.

"Yes, we do have high hopes that NASA will select our configuration. We detect enthusiasm within the NASA ranks. Why not? We can save, on our orbiter/booster design, over a million pounds of weight at an estimated saving in cost of 15 percent. The orbiter is simpler because its tanks are external, making it a smaller, more straightforward vehicle. The orbiter, you know, is about the size of a 707.

"The Boeing booster (comparable in size to a 747), as recommended by us, eliminates an external heat protection shield wrapped about the outside. In other words, extra thickness of the skin constitutes a built-in heat sink that absorbs the heat of re-entry without excessive temperatures reaching the tanks. It's a single structure. And the maintenance cycle is shorter.

Varied approaches

"I suppose these major innovations we have proposed," continued Mead, "are an outgrowth of looking at those 30 or so varieties of design at the beginning; we never locked in on just one particular approach. NASA encouraged us to be innovative.

"About our associates on Spaceplane: Boeing is doing all the work on the booster. We've had representatives from our European associates—Dassault and Dornier—here helping us prepare final reports. They have made a real contribution toward study activities this last year. We've enjoyed working also with our American associates: Aerojet General, Avco, Boeing, Eastern Airlines, General Electric, and Northrop.

"Yes, we're busy. We're starting to write the preliminary drafts of our final proposal. The entire Spaceplane team is now looking forward to NASA's formal proposal for actual development of the system. Their Request for Proposal may come out in late fall. We are, incidentally, supporting NASA in its selling of the whole idea to Congress—and the American public."

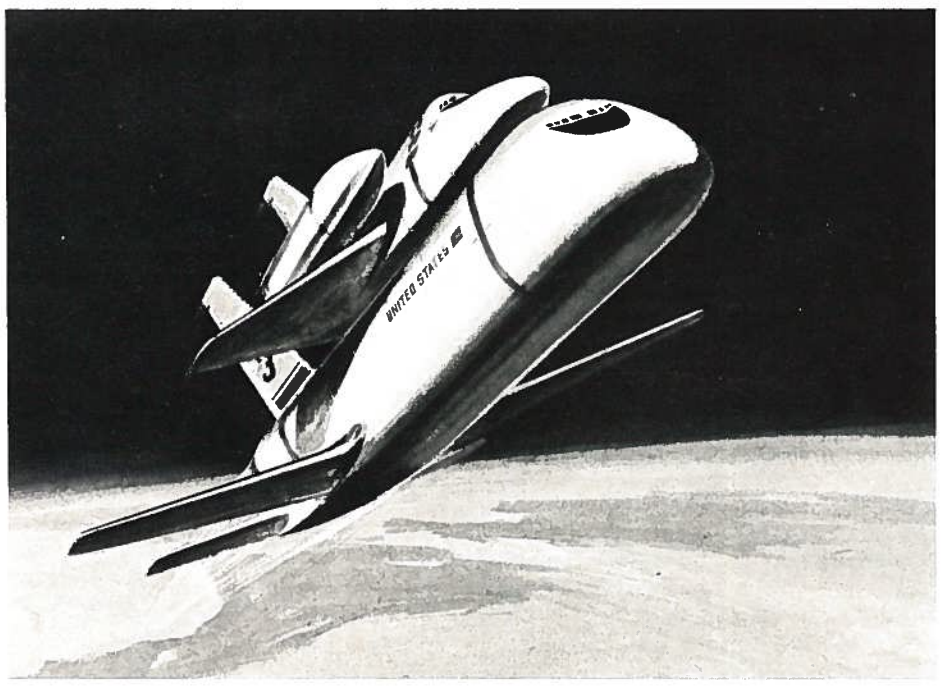
He took another drag on the pipe. "It's fair to say we're extremely encouraged by the Spaceplane Program as it has developed in the last year. We've been coming up very fast in these last few months. With the momentum we have (and we must keep it going) we're now in an extremely good position for a major role in the development program."

Look at the future

Asked about the role Europe will play in the post-Apollo space program, Larry Mead said, "The National Aeronautics and Space Administration and the European space community are continuing conversations, and it appears that Europe will probably participate.

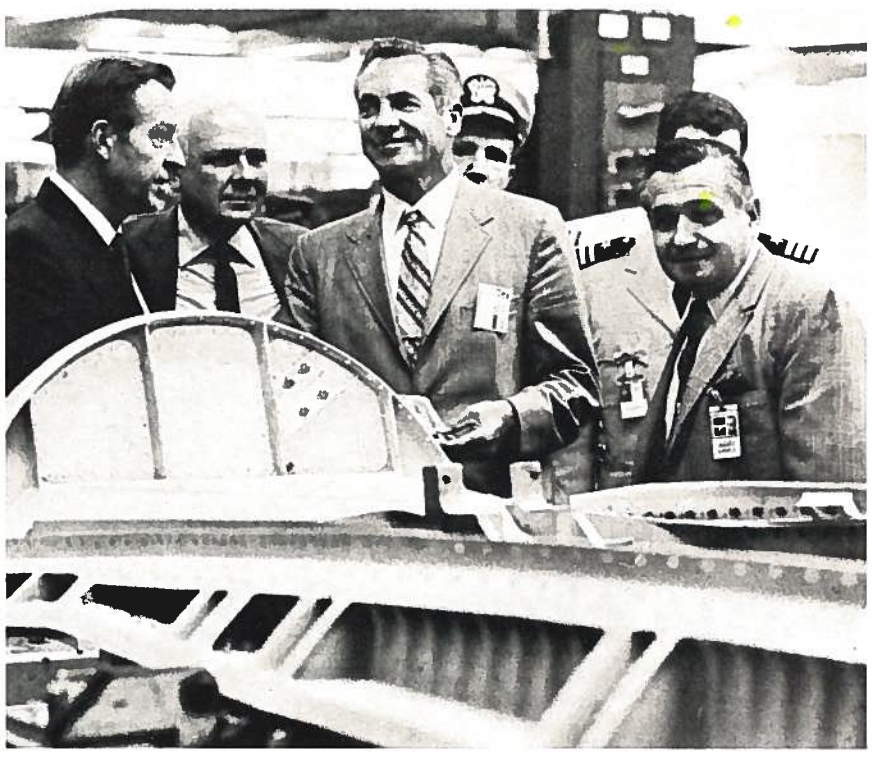
"Their major effort will be to head the development of an orbit-to-orbit Space Tug—a propulsion stage for taking payloads from Shuttle (or Spaceplane) orbit to another orbit. Europe would have a minor effort in support of the Space Shuttle itself.

"NASA and the European space community are preparing specifications and plans for Phase A studies to be conducted in Europe on the Space Tug. If the Europeans do take the lead, they would handle about 80 percent of the work and the United States would be supported by a U.S. company, playing a fairly minor role in the order of 15 to 20 percent."



Space rider. **This is the Spaceplane as Grumman/Boeing team now sees it. In latest configuration, orbiter, the size of a 707, and 747-size booster look like this after lift-off. Artist is Bud Parke.**

Bethpage visit



Vice Adm. Gerald Miller (C), Commander of the Second Fleet, visited Bethpage with members of his staff recenty for a general briefing on Grumman aircraft programs and to update Corporate officers on the growing Soviet naval threat. Admiral Miller is shown inspecting F-14 Tomcat production at Plant 1 with (L to R) Vice President Gordon Ochenrider, President Bill Zarkowsky, Capt. Andrew Yates, Navy Representative at Bethpage, and Vice President Mike Pelehach. (Photo by Fred Annette)

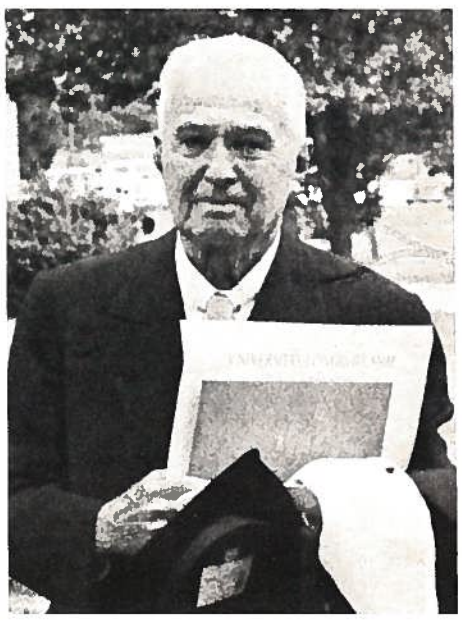
Southampton honors Loening

Albert P. Loening, a Director Emeritus of Grumman Corporation and longtime contributor to aerospace planning and development, was honored with a Doctor of Humane Letters by Southampton College, Long Island University. The honorary degree was presented by Bill Zarkowsky, President of Grumman Aerospace, at Southhampton's commencement exercises last Sunday.

Before retiring from the post earlier this year, Loening had been a member of Grumman's Board of Directors since the corporation was founded in 1929. Albert Loening was one of the pioneers of American aviation; he helped establish the Loening Aeronautical Engineering Corporation, which designed some of the first seaplanes and a World War I fighter aircraft, and he also served as a pilot in that war himself.

Perhaps Loening is best known for his contributions to the aircraft industry, but Southampton College noted that he had provided long and honorable service to the Village of Southampton, too. Three-time mayor, a member of the Village Board of Trustees, a founder and first president of the Southampton Association, Loening was also honored by Southampton Hospital in 1960 with a special award in recognition of his more than 20 years' service on that institution's board of directors.

Southampton College, in conferring the honorary Doctorate of Humane Letters on Loening, noted that "Albert Loening is a beloved figure in our village. The College that honors him today is one of Southampton's newest institutions, and his friendship has helped it grow to a healthy maturity."



Albert P. Loening
Honored for service

New post for Harmon

Len Harmon has been appointed VAST (Versatile Avionics Shop Test) Program manager, reporting to Vice President Ross Mickey. Harmon's office is in Plant 15 and his extension is 2004. He will continue as director of the Corporate Management for Quality Program in addition to his new assignment.

Name 10 top Long Island seniors Grumman engineering scholars

"The Grumman Corporation annually awards to outstanding students a maximum of 10 scholarships of which a minimum of three are awarded to dependents of Grumman employees," states the Engineering Scholarship brochure. 'These awards are . . . offered to encourage talented and ambitious graduates of Long Island schools to study engineering. It is our hope that many of these people will eventually wish to become affiliated with our Company."

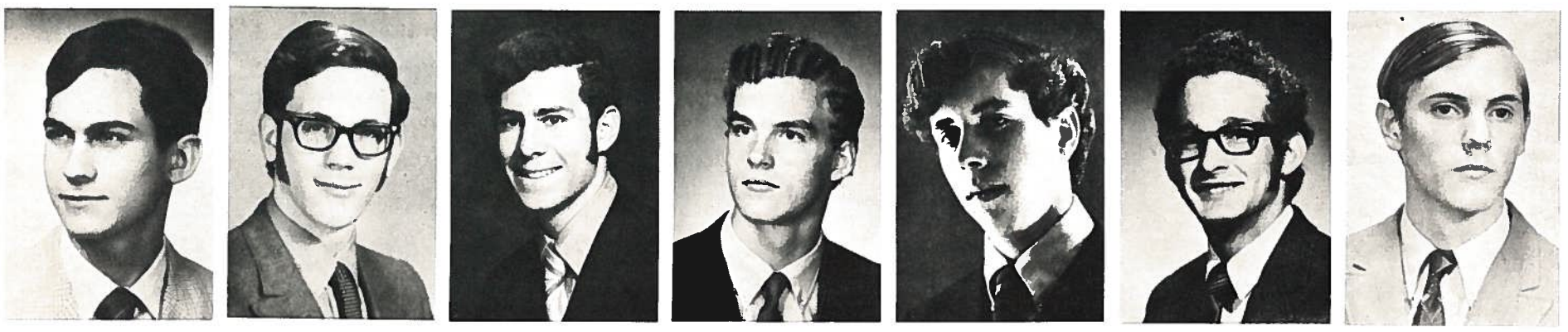
This, at a glance, is the story behind Grumman's annual Engineering Scholarship awards. To the recipients, it means full tuition, for four years, in any accredited engineering school of their choice, jobs for the summer during vacation, and employment with the Company after college. In today's economy, those are some very practical attractions.

The three dependents of Grumman employees who are this year's winners were in contention with 55 other applicants. These three won entirely on the basis of their standings in the College Entrance Examination Board tests that they took last March. They are:

ELIZABETH JEAN SPIESS, daughter of Newt Spiess, director, Product Development, Plant 5. He has been with Grumman 13 years. Betty stands third in a class of 350 at Connetquot High School, and she has been accepted at M.I.T. Her big "do" in her senior year has been the chairmanship of the Senior Variety Show. She brims with energy, channels it toward causes that interest her: Suffolk County Heart Association, American Cancer Society, Vacation Church School, Planned Parenthood. Betty won a letter for cheerleader and two letters in basketball. (She is five feet six and plays guard.) She has been treasurer of the Student Council and a member of the Drama and French and Ski Clubs. Plays piano and has worked as waitress and an interviewer for a marketing research firm. "A warm, friendly personality — dynamic, inquisitive . . . " was one teacher's estimate of her.

ANN ELIZABETH BRUCKNER, daughter of Edward Bruckner, a five-year man who is in Electro Mechanical Design Engineering, working on the E-2 in Plant 15. Ann attends Hunter College High School, a laboratory school for intellectually gifted girls. "I cannot remember any time during the five years that I have known her that she has not been involved in some self-initiated project," said one of Ann's teachers. "A keen, discerning mind." She, too, will attend M.I.T. to study math and physics. She has been business manager of the class yearbook, belonged to the Math Team and the National Honor Society, and has been on the student body council, G.O., all four years. Makes her own clothes, swims at the Y pool six days a week, was awarded a National Science Foundation scholarship to summer school at Manhattan College.

KEVIN T. SWEENEY, son of Joseph P. Sweeney, assistant drafting supervisor (electrical), F-14, Plant 1, with Grumman four years. Kevin has been accepted at both Polytechnic Institute of Brooklyn and Cooper Union, an endowed, competitive, no tuition college in Manhattan. Kevin is an electronics bug. For the past three years he has been carrying, besides his regular studies, a technical electrical course "related to my interest in electronics." His electronics instructor says of him, "He has a very quick mind and retains information amazingly well." Chess Club seems to rank at the top of his outside activities —although this spring he's been devoting much energy to fixing up an old jalopy to insure having transportation to work at Grumman.



Henry Brandt
Chaminade H.S.

Lawrence DeVito
Hauppauge H.S.

Jeffrey Doninger
John Kennedy H.S.

Jorge Gustavson
Walt Whitman H.S.

Lawrence Herman
Cold Spring Harbor H.S.

Jeffrey Schweiger
Smithtown Central H.S.

Thomas Wood
Paul Schreiber H.S.

'Open' winners

HENRY R. BRANDT. He has belonged to the National Honor Society for two years and to the Radio Club for four— the fourth as president. Henry's idea of a good summer is to spend 12 hours a day, six days a week in the school radio shack. Has his ham license and has spent four years on educational TV. He has taught retarded children and has been active in the Telephone Company's Explorer Post 700, of which he is president.

LAWRENCE M. DE VITO. Larry has his eye on graduate study in electrical engineering, a logical goal for one whose exam marks are typically 100 in Electronics II and 99 in chemistry and physics. He's been on the Math Team for four years and in the National Honor Society three years, the last as president. His senior year independent project: a nuclear magnetic resonance spectroscope.

JEFFREY L. DONINGER. Active in the Nassau-Suffolk B'nai B'rith Youth Organization, Jeff is regional president, and at school he's in Key Club International and Math Club, on the soccer team, and president of the Student Council. He took a math course sponsored by the National Science Foundation at New York University.

JORGE GUSTAVSON. He has bronze and silver medals from the Long Island Math Fair, has been on the Mathletes Team and on computer and math help squads. Belongs to the National Honor Society, Key Club, and General Organization (treasurer). His summertime work has been with Mergenthaler Linotype and the South Huntington Public Library.

LAWRENCE M. HERMAN. Although aviation is his consuming interest, Larry has spent 20 hours a week as editor-in-chief of the school paper during his senior year, and he has also been on the yearbook staff. He belongs to the Pan Am Flying Club, has his private aircraft license, is a ground instructor as well. He has worked in the summer with mentally retarded children and has been a member of the audio-visual squad and of the Key Club.

JEFFREY M. SCHWEIGER. Jeff stands Number 1 in a class of 670, and his activities betray a variety of interests: Eagle Scout, Order of DeMolay, Temple Beth Sholem Choir, Smithtown Fire Department Band. The National Science Foundation sponsored a Summer Institute in Engineering Science in 1970 and Jeff was president of the student body. He belongs to the school band, French Club, National Honor Society, Math Team, Thespian Society.

THOMAS H. WOOD. He knows about computers and built one under a foundation grant. Also set up the school amateur radio station. (He has his radio amateur license.) Tom has been in the school band three years and is drum major and plays first saxophone. Summers he has worked at a boat livery and done house painting. Taught remedial math and reading for junior high students, has two varsity letters in track and three Math Fair medals.

Scholar committee

The three chosen each year as "alternates" very often step into a vacancy left if one of the full scholars changes plans or no longer qualifies for his Grumman Engineering Scholarship.

Vice President George Skurla became chairman of the Grumman Scholarship Recommendations Committee this year, succeeding Charles Tilgner, who retired. This committee includes Vice President Jim Zusi, Art Gilmore, Dick Cyphers, Dick Imgram, Pete Viemeister, and Sten Goldsmith. They recommend, on the basis of over-all academic achievement and apparent engineering aptitude, as well as College Board test results, the names of those applicants they consider most promising. The grants include full tuition plus laboratory fees and a $500 endowment to the school of their choice, for each Scholar, who may work for a bachelor's degree at any accredited engineering school he chooses.

The Grumman Scholarship Committee, which approves the final recommendations, includes Roy Grumman, Honorary Board Chairman; Clint Towl, Chairman of the Board; Lew Evans, President; Bill Schwendler, Chairman of the Executive Committee of Grumman Corporation; Dr. Ellis L. Phillips Jr., President of Ithaca College.

Started in 1944

The total number of applications from dependents of Grumman employees was 58 this year and from the Nassau-Suffolk schools, 101. This is the 28th year the Grumman Scholarships have been offered. Many of the winners have gone on to top positions in the Grumman organization or in its subsidiaries.

Grumman was one of the first in the industry to assist students and universities toward the goals of broadening opportunities and improving American education.

Schweickart to speak

The new Grumman Scholars will be guests of honor at a luncheon to be given by the Company on June 16 at Holiday Manor. In the morning they will be greeted by Bill Schwendler, Chairman of the Executive Committee of Grumman Corporation, and taken on a tour of Plant 5.

Astronaut Russell (Rusty) Schweickart, who was the Lunar Module pilot for the Apollo 9 mission, will be guest speaker at the luncheon. Rusty has been an Air Force pilot, and a research scientist at M.I.T. On Apollo 9, Schweickart had 46 minutes of Extra-Vehicular Activity during the flight.

Other guests at luncheon will be the Scholars' principals, their guidance counselors, and their new Grumman advisers, and the fathers of the three winning Grumman dependents. Senior Vice President Dick Hutton will present the Scholarship awards.

Scholarship winners

ELIZABETH JEAN (BETTY) SPIESS, daughter of Mr and Mrs. Newt Spiess, 46 Fernwood Ave., Oakdale. Connetquot H.S. She will attend Massachusetts Institute of Technology and major in science and mathematics.

ANN ELIZABETH BRUCKNER, daughter of Mr. and Mrs. Ed Bruckner, 41-63 Frame Pl., Flushing. Hunter College H.S., Queens. Massachusetts Institute of Technology has accepted her. She will study mathematics and physics.

KEVIN T. SWEENEY, son of Mr. and Mrs. Joseph P. Sweeney, 251 Bellmore Rd., East Meadow. Tresper Clarke H.S., Westbury. He expects to attend Cooper Union or Polytechnic Institute of Brooklyn, majoring in electronics.

NASSAU-SUFFOLK WINNERS

HENRY R. BRANDT, son of Mr. and Mrs. Henry R. Brandt, 3678 Bernard Dr., Wantagh, Chaminade H.S., Mineola. He plans to attend Rensselaer Polytechnic Institute or Cornell University, with a major in electrical engineering.

LAWRENCE M. DE VITO, son of Mr. and Mrs. G. S. DeVito, 18 Bee Dr., Hauppauge. Hauppauge H.S. He plans to study electrical engineering at Massachusetts Institute of Technology.

JEFFREY L. DONINGER, son of Mr. and Mrs. William Doninger, 2915 Shore Dr., Merrick. John F. Kennedy H.S., Bellmore. He will attend Massachusetts Institute of Technology with a major in aeronautical engineering.

JORGE GUSTAVSON, son of Mr. and Mrs. Edward Gustavson, 13 Sibley Pl., Huntington Station. Walt Whitman H.S. He also will go to Massachusetts Institute of Technology, majoring in electrical engineering.

LAWRENCE M. HERMAN, son of Mr. and Mrs. Morton Herman, Rte. 3 Forrest Dr., Huntington. Cold Spring Harbor H.S. He plans to study aeronautical engineering at Princeton University.

JEFFREY M. SCHWEIGER, son of Mr. and Mrs. Marvin I. Schweiger, 44 Roundabout Rd., Smithtown. Smithtown Central H.S., St. James. Jeff will go to Massachusetts Institute of Technology to study aerospace engineering.

THOMAS H. WOOD, son of Mr. and Mrs. Robert T. Wood, 24 Roxbury Rd., Port Washington. Paul D. Schreiber H.S. He plans to attend Brown University and major in electrical engineering.

ALTERNATES

PETER J. BROFMAN, son of Mr. and Mrs. Owen B. Kaufman, 35 W. 16 St., Deer Park. Deer Park H.S. He hopes to study aeronautical engineering at Rensselaer Polytechnic Institute.

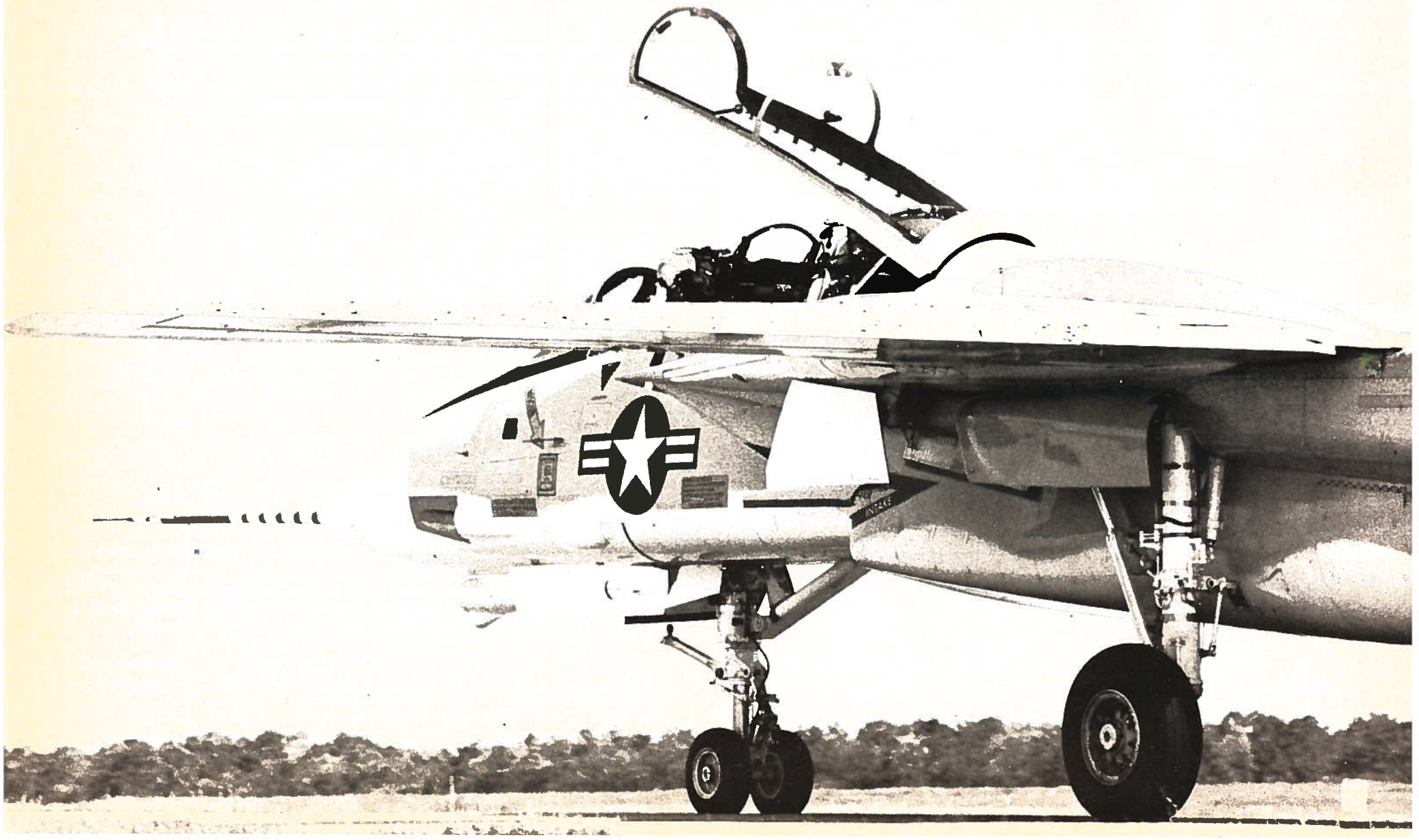
PETER A. KELT, son of Mr. and Mrs. Douglas L. Kelt, 80 Newton Blvd., Lake Ronkonkoma. Sachem H.S., Lake Ronkonkoma. He has his sights set on Notre Dame with a major in electronics.

ANDREW M. ZIOLKOWSKI, son of Mr. and Mrs. Klemens Ziolkowski, 24 Crown La., Westbury. W. Tresper Clarke H.S. Cornell University is his choice, with a major in electrical engineering.

On the go. **Betty Jean Spiess (2nd L, top) placed third in a senior class of 350. She's been accepted at M.I.T. Cheerleader, math expert, Senior Show chairman, she's a girl on the go. With her are mother, father, Newt Spiess, director of Grumman Product Development, and sister Virginia. Another sister, Kathryn, is in Turkey.**

Another for M.I.T. **Ann Elizabeth Bruckner loves to swim and does so, in the Y pool, six afternoon a week. Bikes a lot, makes her own clothes. Was American Teenager of the Year. Her father, Ed Bruckner, is in P/S Electro Mechanical Design Engineering, E-2C. Her mother (R) goes to college. That's sister Linda (2nd L).**

Electronics expert. **Kevin Sweeney, son of Joseph Sweeney, asst. drafting supervisor on F-14, plays his favorite game with his father. After a summer at Grumman, he'll major in electronics at Cooper Union in Manhattan. He's been carrying an electrical course on the side for three years. In group are his parents at L, and Maureen, Joseph, and Grandmother Margaret Barrett. (Photos by Fred Annette)**



Tomcat's flight-test program off and winging at Calverton

The steel-white Tomcat No. 2 glistened brightly in the noonday sun as it taxied toward the airstrip at Calverton. A-6A 55 followed the same route, passing the stand-by fire apparatus. The next sound was that of the rescue helicopter taking off.

A short pause—then the roar of the A-6, and then that of Tomcat No. 2. With them in the sky was T-1, the tanker aircraft. All headed for the offshore flight-test area southeast of Plants 6, 7, and 8. Quickly, the planes looked like dots. . . . and then, they were out of sight.

At Plant 7's ATS (Automated Telemetry System) facility, designed and implemented by Grumman Data Systems, the planes were "in hand," out of sight visually but not electronically. The Terry Hill antenna, some 3½ miles from Plant 7, had its "eye" on the entire flight, providing a microwave link to the ATS, which is as complex a real-time tracking system as any known. Anyone in the ATS who had his earphones on and wanted to view the always changing computer displays knew where Tomcat was, and what it was doing. "At 30,000 feet. . . . 0.7 Mach," said Test Pilot Bill Miller, who was flying the new bird while Chuck Sewell, Grumman's Chief Test Pilot, was in the rear cockpit operating the instrumentation controls.

The voices were calm and businesslike, the conversation to the point, and the flight progressed pretty much by "the cards" (not by the book).

All in the 'cards'

The cards are the keys to flight planning. At the morning briefing, all those immediately involved in the up-coming flight talk about the cards, which spell out each test point to be made during the flight. For example, "test speed brake effectiveness to induce drag. . . . drop from 30,000 feet to 15,000 feet and maintain a constant speed. . . . "

Everyone with an input at this briefing speaks up. In that way, yesterday's glitches are assessed (and many remedied) and today's flight plan made clear, all in a precise and thoroughly honest way: a tight team in the best sense of the word.

On this particular morning, as Miller piloted Tomcat, Test Pilots Don Evans and Bob Smyth had support work to do, Evans in T-1 to check on refueling approach (which went off beautifully) and Smyth to keep close tabs on Tomcat by flying alongside, and, occasionally, under Tomcat.

Computer talk

Tomcat progressed through the flight cards, and the air-ground dialogue continued as ATS gobbled up telemetry data. Voice:

"Stand by . . . side-slip . . . three degrees . . . maneuver completed," Miller reported.

At the same time, whatever the plane was doing, the telemetered information was bundled at Terry Hill and "depackaged" for ATS use. At what's termed the "front end" of the computer system, people and computer "talk with each other," as Dave Holtje puts it. Then any of three small computers, called pre-processors, calibrate the data, make limit-checks on individual items, reporting by exception only, and pass data to the main computer for real-time calculations on demand of flight-test analysts. The main computer not only controls and operates all ATS station equipment but **it takes the calibrated data and turns it into answers.** That is, the flight is fully and understandably reported and available to pilots and analyzers immediately. (It used to take days before the advent of ATS, and those pre-ATS efforts never came up with all of the information about a flight.)

Complete flight picture

On the second floor of the ATS, all of the flight data is displayed. As Tom Kastner, who heads up ATS, remarks, "We get a complete picture of flight events and all the needed parameters. For example, during flight five, test point four, there was a performance evaluation at 15,000 feet between .70 to .40 Mach number, derived from the cards and fully recorded in actual flight."

The fifth flight, by the way, went very well, as attested to at the debriefing immediately after the two-hour-plus flight. There were crabs, as Miller, Sewell, Smyth, and Evans said; but Joe Hannan, the man in charge of flight test, called them "minor and easily corrected." And Hannan also commented on the attitude of the test pilots:

"They're always scratching for crabs. They've just got to have crabs"—(and he smiled)—"as a matter of duty."

Hannan went on:

"After each flight, we've had great turn-around. Because of the leadership of Vinnie DeStefano (assistant manager, Plant 7), the plane's been put in shape, de-crabbed, ready for early morning flight. Tomcat's reaping the benefits of maintainability and reliability. The aircraft's relatively trouble-free—and this is only No. 2!"

Salute ground crew

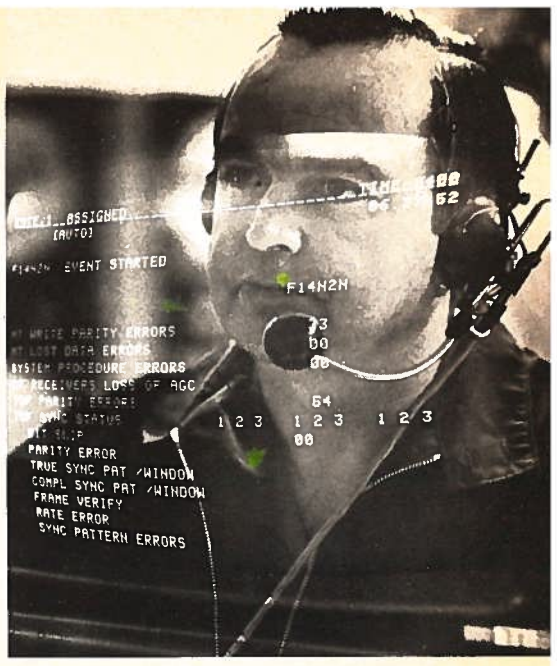
Vinnie swings the emphasis around, pointing out that the plane captains and the people doing the maintenance job on an aircraft are the ones deserving recognition. "Those plane captains on Tomcat 2, Tom Smith days and Bill Lent nights, are the guys fully responsible for everything on the plane. They direct and control the work of setting up the next flight-ready event. They make sure that the crabs are cleared away—and they're the ones who determine whether an aircraft is ready for flight. Each plane captain has just one plane at a time: It's his, 100 percent."

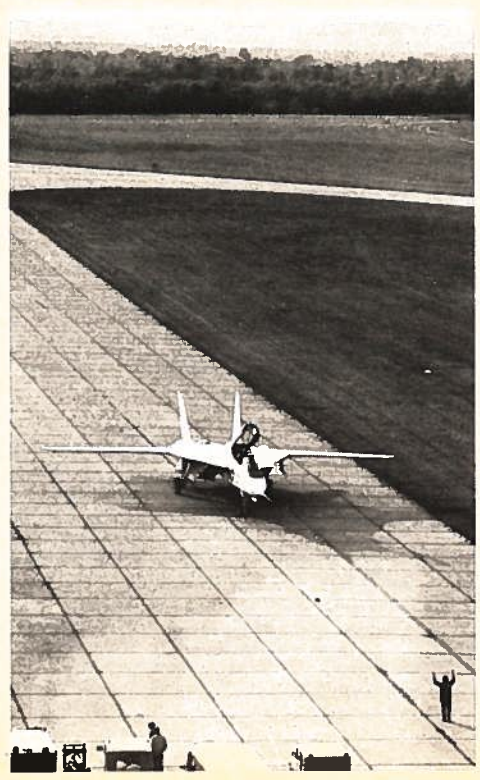
An over-all assessment comes from Smyth, deputy director of the Flight Acceptance Department:

"We're very pleased with the aircraft. In cruise and power approach (landing) it has fine stability characteristics. Right now it's better than a production F-4.

"We've made mirror (ship-board)

(Continued on page 8)





Flying is our business

The world of flight has been changing so swiftly—as the planes themselves have—that even a relative youngster may find himself an old-timer, unless he pursues the pace of technology. Long gone are the days when a pilot kicked the tires to 'test' them and the plane before flight. And gone, too, is the highly individualized 'seat-of-the-pants' flying style. Now the job is tougher, on the one hand, easier on the other. Tougher because there are more things for the pilot to watch over and perform, and stresses may grow with complexity; easier because weapon systems are so much better built than before and are supported by talented ground and flight-test crews with exotic equipment. It's a rugged, challenging, satisfying flight road. (Cover shot and photo spread by Fred Annette)

Friendship through space. **Pete Simmons (R), assistant for astronomy to Vice President Ralph Tripp, presents plaque to Dr. Fumio Tamaki, director of Space Institute, University of Tokyo. Dr. Kozo Kawata (C) was chairman of international symposium held in Tokyo at which Simmons gave paper on astronomical spacecraft.**

Flagstaff 'hits' on gun trials

High ranking military and civilian personnel at San Diego saw the Grumman hydrofoil craft PGH-1 Flagstaff make four runs on a shore target during a gun-firing demonstration held on June 3. Firing a-beam, while running parallel to the shore at speeds in excess of 40 knots, its 152 mm howitzer demolished a 30 x 30 foot target on three out of four runs. This was a very impressive demonstration, according to Joe Barbetta of Business Development, and concluded eight weeks of gunnery trials which began in April. Flagstaff also, after some unsuccessful attempts, hit a smaller surface target, sinking it.

The skipper of the Flagstaff is Lt. Roger Cooper, who has been promoted from lieutenant junior grade since he began piloting the hydrofoil gunboat. He will attend post graduate school "and then," says he, "I would like eventually to take command of the new PHM missile-carrying hydrofoil craft the Navy is currently contemplating. It would be about twice the size of the existing PGH."

Flagstaff will for the immediate future be available as a test platform for other sub-systems the Navy may consider evaluating.

The PHM that the Navy has in mind will be a missile-carrying gunboat about 120 feet long with 150-ton displacement. It is expected to be equipped with an integrated weapon system consisting of surface-to-surface missles and an anti-aircraft battery. And hydrofoils.

Picnic time

In case you hadn't noticed, it's finally heating up outside . . . and when that happens, it's time to start thinking of summer vacations and such. One big event on the summer calendar: the annual Grumman Family Picnic.

This year the outing is scheduled for Saturday, July 17, at Calverton. Tickets go on sale starting Monday, July 14, at all Employee Services Offices, with the tab $2 for general admission, and all children under 12 admitted free. More on the picnic will appear in the June 25 issue of Plane News.

Buyer beware

A warning from the L. I. Better Business Bureau names a group that could easily spoil your summer: the Williamsons. "In case you've been hibernating and missed earlier Bureau warnings," the BBB says, "they are a family of about 100 skilled confidence men who pose as handymen, roof and chimney repair experts, and driveway and waterproofing contractors." They operate out of local motels and garden apartments.

"One sales approach successful on Long Island has the handyman telling the householder that he has just completed a job in the neighborhood and has enough material left over to resurface the driveway at a bargain rate," the Bureau warns. So remember, the guarantee is worthless.

OAO goes on and on . . . and on

The indefatigable Orbiting Astronomical Observatory OAO-2 feeds more and more data back to earth from its 485-mile orbit. At the age of 2½ years it recently completed more than 13,000 orbits of the earth. Last year, reports Pete Simmons, assistant for Astronomy to Vice President Ralph Tripp, OAO detected faint traces of ozone in the atmosphere on Mars—a surprise, because Mariner had missed it. A more careful re-analysis of Mariner data confirmed OAO's findings. Wisconsin University's experiment package aboard OAO-2 continues to operate, and astronomers are planning to make detailed analysis of the Martian atmosphere when Mars makes its closest approach to earth.

LST, the Large Space Telescope being studied by Chris Witt and Pete Simmons and a study team, has survived nearly all the Federal Year '72 budget reviews, Simmons said. "Goddard Space Flight Center is planning to launch Phase B/C Request for Proposal in August or September."

Dinghies can be the most useful things

"Dinghy Management," a pocket-size folder that should be of interest to present or prospective owners of dinghies for sail or power boats, is available at no charge from Grumman Boats, Marathon, N. Y. 13803, or through Grumman dealers.

Sketches accompany the text, and among the topics covered are such unusual uses for a dinghy as rain catcher, washtub, and swimming ladder, hints on stowing and controlling when at anchor, sketches of towing gear and suggestions on proper towing, and how to handle a dinghy that has gone adrift or is swamped.

Grumman's tough all-aluminum dinghies are available in two versions, the regular rowing model and the sailing model which includes daggerboard trunk with seal, daggerboard and rudder, as well as sails, mast, boom, and rigging.

More on Tomcat . . .

(Continued from page 7)

landing approaches at air speeds comparable to the A-6A; the engine-inlet combination is flawless so far; the aircraft is nicely controllable in formation flying; and there's no problem with in-flight refueling. Take-off performance is as predicted.

"The problem with the ECS? Not really significant; it's a little noisy now but when the full electronic system is installed, cockpit airflow will be reduced. Weight? Excellent. Much less than the F-111B. There'll be no problem in making carrier landings. The hydraulics system? Great. Not a problem."

Back in the world of the test pilot—the guy who knows a plane better than anyone else—Tomcat No. 2's flights have been judged as remarkable. Smyth wrapped it all up when he said that "Tomcat's a real pilot's aircraft. There's nothing foreign to him. He feels a part of it."

Sorry about that

In its last issue, Plane News ran a 25-year-old photo of WWII planes secured to a carrier deck. The theme was all right—the propellers of these planes when revved up did help turn a carrier around in a tight place. But there isn't a Hellcat or a Corsair in the bunch, according to Dick Reade of E-2 Project Management, Al Haberski of Avionics Management & Staff, and Fred Hamilton of Engineering Systems & Procedures. They should know. They were there.

Just trying to keep you on your toes, fellas.

CALENDAR of events

Notice of events for period June 26 - July 9 should reach Plane News by **Tues., June 15.**

Amateur Radio Club: Wed., June 16, 5 p.m., WA2LQO shack on roof of Plt. 5, field day planning. E. Goodman, Ext. 87125.

Astronomical Soc.: Wed., June 16, 5 p.m., Plt. 28 Conf. Rm. 2, reg. mtg., new members welcome. Ed Anderson, Ext. 7044.

Chess Club: Tues., 5 p.m., Plt. 3 Cafe, tournament, games. Alex Ikonnikow, Ext. 7592.

Coin Club: Wed., 12:05-12:50, Plt. 25 Vendor Conf. Rms. Ken Hale, Ext. 1936.

Dance Club: Every Tues., 8:30-10 p.m., St. Francis of Assisi, Northgate & Clay Pitts, Greenlawn, ballroom danc., $2/session. Len Luke, Ext. 9682.

Duplicate Bridge Club: Thurs., 5:45 p.m., Plt. 3 Cafe, reserv. not required, partnerships arranged. Pete Harrington, Ext. 1812.

Ex-Servicemen's Club: First Mon. of month, 7:30 p.m., Plt. 28 Audit., exec. & gen. mtg. Al Kordula, Ext. 87259.

Family Campers: Thurs. thru Monday, July 1 thru July 5, Camp lands of Swan Lake, Swan Lake, N.Y., 4th of July rally. Bill Lord, Ext. 2914.

Fenc. Club: Fri., 5 p.m., Plt. 30 Cafe, competitive fenc. & instruction. Joe Campisi, Ext. 1134.

Flying Club: Fri., July 2, 5 p.m., Plt. 28 Audit., month. mtg., FAA film. Mal Gerry, Ext. 1396.

Horseback Rid. Club: Every Sun. Caren Carlson, Ext. 2725.

Human Factors Soc.: Tues., June 22, 7:30 p.m., United Cerebral Palsy Inc., 339 E. 44 St., N.Y.C., Metro. Chap., spkr. J. Sheridan, AT&T, J. Dunlap, & Assoc., R. Schonehorn, U.C.P., J. Gold, Grumman, "Human Factors & the Disadvantaged", $1.50 incl. cake & coffee, park. Unique Gar., 330 E. 44th St. Jerry Fox, Ext. 9431.

Huntington Toastmaster Club: Mon., June 14, 8 p.m., Allstate Bldg., Melville, Educational Public Speak. & Leader. Train. T. Campbell, Ext. 3157.

Over Forty Club: Wed., June 23, 4-6 p.m., Plt. 28 Conf. Rm. 2, month. mtg. Frank Mistretta, Ext. 6427.

Retiree Club: Wed., June 30, 12:30 p.m., Holiday Manor, annual luncheon, spkr. Assemblyman Martin Ginsberg. GAA, Ext. 2133.

Soc. of Mfg. Engineers (formerly ASTME): Mon., June 14, 6:30 p.m., Rose Rm., MacArthur Airport Restaurant, Islip, spkr. A. Werner, Airport mgt., movie about airport's growth. Sid. Hale, Ext. 3512.

Stamp Club: (Bethpage) First 3 Wed. of month, 5 p.m., Plt. 30 cafe, swapping, circuit bk. sales, auctions. Marty Harow, Ext. 9172.

OBITUARIES

Plane News has received word that death has come to the Grumman personnel listed below. We extend sincere sympathy to relatives and friends.

WILFRED R. AGRELLA of Calverton Planning & Control, Plant 7, a 35-year man with Grumman, died June 6. He was 62 years old. He lived on Main Road, Orient.

AUGUSTUS F. MANGANI died June 6 at the age of 55. He worked in Tool & Methods Engineering, Special Detail, Plant 2, and had been with the Company six years. His home was at 2 Arcadia La., Hicksville.

Cotignola slugs Titans to 18-5 win to kick off GAA softball season

Lou Cotignola and Jack Benny have something in common—they're both 39. Lou, unlike Jack, will never see 39 again, and the stage he best performs on has about 19 other guys fighting for top billing. In a recent tilt between the Titans and the Campbell Kids in the Tuesday National after-hours league, Lou showed that he's planning to make that 39th year a memorable experience. Sparking the Titans with a three-hit effort, all doubles, Lou drove in five runs to lead his team to an 18-5 victory, the first of the year for the Titans. He had help from Tom Woerter, 4 for 4, and Gordon Bell, 3 for 4. . . In other action, Jim Schwab and Tony Castellano combined for eight hits to spur the Mohawks to an 18-8 decision over the Supporters. . . . The OAO Stars, with Al Grillo and Ken Soldwedel supplying three hits apiece, spanked the Campbell Kids, 7-4, then outgunned the Druids 17-7, with Dick Grimaldi's triple and homer the big bombs.

Gallegro stingy with base hits

While Duffy Gallegro doled out only five hits to the Mets, teammates Paul Baritz and Artie Frasca were clouting three hits each, including homers, to highlight the Simulation's 15-1 win in the Tuesday American after-hours encounter. . . . Earlier, the Mets had better luck against the Digital Dynamos. Jack Engelmann's three-run poke, and a clutch double play started by Vin Accolla, provided the difference in a 10-8 victory. . . . The Dynamos were still stuttering when they ran into the Dacs, and came away on the short end of a 16-6 count. Jim Hunter had four hits, a double and triple included, and Dave Oestel also contributed four safeties to pace the win. . . . Earlier, Duffy Gallegro gave evidence that he plans to be pretty stingy when passing out hits this season. Duffy was well on his way to a shutout when I.L.S. scored an unearned run in the sixth, but heavy slugging by Walt Valckenaere, John Slonaker, and Charlie Leipold helped chalk up an 8-1 victory for Simulation.

Miller, Brook pace Research assault

The game was over practically before it began for the Hawkeyes recently. Research pushed across a single run in the first, then unloaded for 10 in the second, and three more in the third before the losers got on the board. At the end it was 22-5, with John Brook and John Miller collecting a total of eight hits in the Monday National after-hours circuit. . . . Bill Meehan's three-run poke got the Vikings off winging, but it was a seventh-inning triple by Bruce Marcus and a game-winning single by Dick Chiafolo that spelled the difference in a 5-4 meetign between the Vikings and D'Amicos. . . . In the American division, the Road Runners were down by five after two frames but came back to score two in the second, eight more in the third, added a couple of others in later innings to win 14-5 over the Good Guys. Heavy stickers were Len Marsh, Ron Trimboli, and Ed Paolino. . . . In a laugher, the Monopoles clouted the Mufflers, 24-1.

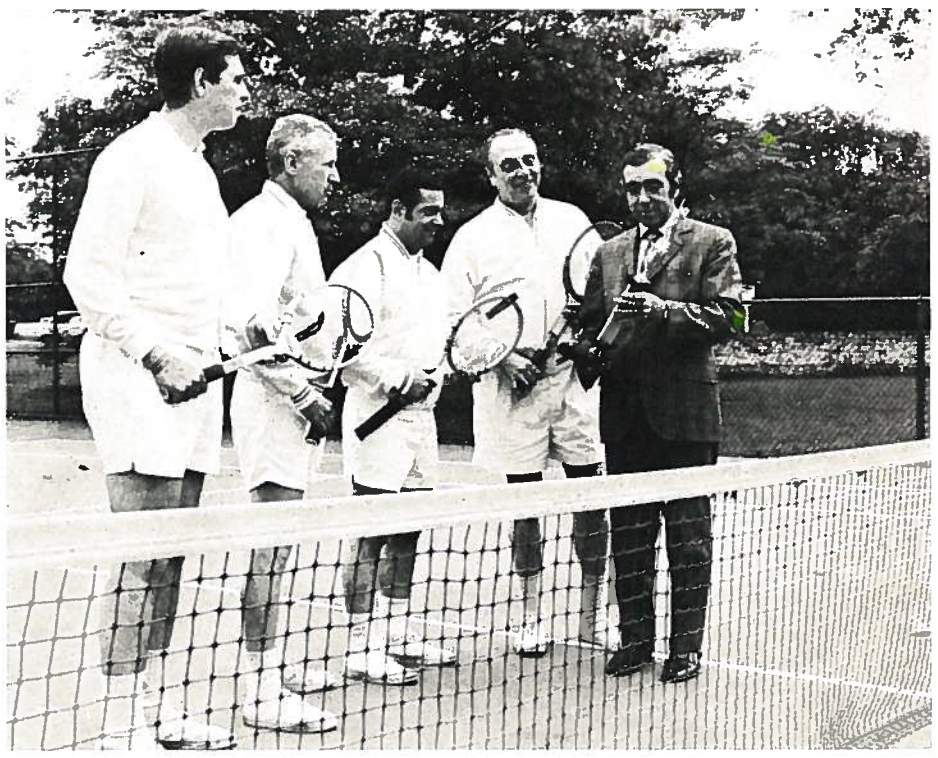
Vikings rap 'Cats in Wednesday loop

Hedging your bet is a well-known ploy on the stock market, even at the track, but who ever heard of it on the ball field? Well, the Vikings are doing just that. Just in case, the Norsemen entered the same roster in two leagues, the Monday National and the Wednesday National, thereby providing themselves with a shot at not one, but two, league titles. (By the way guys, what do you do in your spare time?). Against the Tom Cats in the Wednesday after-hours loop, Al Grillo and Bob Scully went three-for-four as the Vikings rapped the Cats, 6-2. . . . It didn't go so well in their match-up with the Side Lobes. Frank Prisco and Joe Alario smashed homers for the Lobes but it took a two-run single by Prisco in the last inning to score the clincher in a 14-13 donnybrook. Ray Manzo reached the seats for the Vikings. . . . Joe Palmieri's triple and homer weren't enough as Willy's Warriors fell before the Cats, 12-8. A cluch strikeout by reliefer Joe Brenner, and a game-saving catch by outfielder Paul Marcik were highlights. . . . Bruce Yberg's three-run shot paced the Sloe Pokes to an 11-9 win over the Lancers. . . . The Warriors later put their record at 1-1 with an 11-5 victory over the Plumbers. Joe Rivera collected three hits, including two homers, and veteran Ed Williams had three safeties, including a triple.

Hi-Balls in romp over Egg-Beaters

Could those guys from GDS, the ones who call themselves the Egg Beaters, be putting us on? Hope so. Because if they aren't, with a name like that, and considering that they were shut out, 4-0, by the Hi-Balls the first time out in the Wednesday National loop, it could be a long season. And how about the winning manager, Mike Gurello? He condensed his report into one sentence: "Bill Pallack pitched and hit the Hi-Balls to a 4-0 season opener against the Egg Beaters." A man of few words, apparently. . . . The Heroes couldn't find a phone booth to make a quick-change on the way to the game, and it showed. The Tac Jammers jammed them, 39-4. Now, who would want to do that to a nice bunch of guys, especially with a 42-hit assault. The heroes on the Tac Jammers, too many to list fully, included Rob Ogilvie, 6 for 6 including two homers, Bill Dargis, Hal Schaal, Charlie Dietz, Jim Schwab, and Billy Foote. And catcher Sy Majid had better luck with the round ball than he had with that other round ball on the lanes this winter. Sy collected six hits also. Way to go, bullies.

In the Thursday league, the Jets clouted the Wiffles, 16-4, Tom Ramberg smacked two homers, and the CBA Stars corraled the Hits, 13-8, with Paul Bianchi and Arno Kallas the hitting stars.



Net champs. At conclusion of first all-Grumman tennis tourney, Chet Baumgartner (R) of GAA presented awards to top doubles team, Alex (L) and Val Kirillin (2nd R) and runners-up, Fred Hermann (2nd L) and Tom Guarino. Earlier, Hermann captured singles crown. (Photo by Bob Settles)

Hermann captures net crown, Kirillins sweep doubles play

For the past couple of years there has been a friendly rivalry developing between Fred Hermann and Jacques Crouzet-Pascal. They both play on the Grumman varsity tennis team, but they had never met before except in practice. And then last week they collided head-on in the finals of the first all-Grumman tennis tournament.

There was more than a trophy and a title riding on the meeting. Perhaps it was prestige — after all, Hermann is captain of the varsity; perhaps it was ego, or whatever other psychological vibrations develop in such a rivalry.

Hermann, slight, crew-cut, and greying, is eligible for senior's play this year but it's not noticeable in his court play. The varsity team captain and Crouzet-Pascal, who at 36 is 10 years younger, play the same type of game; they depend on spin, drop shots, lobs, and placements to outmaneuver and outscore their opponents.

So this first meeting between two of the varsity standouts on the Bethpage State Park court seemed likely to be a good one. But this get together might be compared to a disappointing love affair; all the excitement was in the anticipation; the actual meeting fizzled. Jacques never did get untracked and fell to Hermann, 6-1, 6-1.

The next time around may be different, but this one went to the grey-haired veteran. And why? According to Fred, "I was pointing for this one and got in great physical shape."

A couple of days later there was a different ending for Hermann. He and Tom Guarino met Val and Alex Kirillin, a father-son combo, in the doubles finals of the tourney. It turned cold and overcast as the match progressed at Bethpage, with the first set going to the Kirillins, 6-3.

Hermann and Guarino came back to win the second set in overtime, 8-6, evening the match.

In the third and final set, after trailing, 2-3, Val and Alex Kirillin ran off four straight games to win the set, 6-2, and the championship.

Berka takes top gun prize

That man from Security, Al Berka, is starting to make a habit of walking off with the big trophies in pistol tournies. He did it again last weekend when he captured the overall championship of the annual Grumman Rod & Gun pistol shoot at Islip.

Shooting in the Masters class, Berka collected six firsts and four seconds in .22 and center fire (.38 or .45 caliber), which earned for him the distinction of being the outstanding marksman in the event. He totaled 1,724 out of a possible 1,800.

Others from Grumman who were in the winners' bracket included Lt. Joe Oliveri of Plant Protection, who established himself as Expert class champion on eight firsts, one second, and one third with a 1,703 total, and Phil Boehm, also of Plant Protection, champ of the Sharpshooter division on six firsts, two seconds, and a third, with a 1,628 total.

In earlier competition, Berka traveled to West Point to fire against the best in the east. This time he had a near-miss on the big title—he fired a 2,581 totai out of 2,700 in .22, .38, and .45 caliber, missing out on the overall championship by only two points.

Pin standouts. **Tourney director Herb Mahoney (C) presents high-team handicap awards to 3Ms plus 1 during recent Tournament of Champions at Sheridan Bowl. Standouts included (L to R) John Mica, Tom Marciano, Joe Thomson, and Rudy Ferro. (Photo by Bob Settles)**

Pin tourney attracts 29 teams

The first all-Long Island Tournament of Bowling Champions scheduled by the Grumman Athletic Association attracted 29 teams to Sheridan Bowl last Sunday afternoon, and after rolling three games in the 80-percent handicap stakes, the 3Ms plus 1 of the Structural Test league captured the top prize. Rolling for the winners, John Mica, Tom Marciano, Joe Thomson, and Rudy Ferro amassed 2,516 pins (with a 380-pin spot) to take the high award.

High-scratch laurels went to the Whoizees of the Masters loop. John Betterino, Mike Internicola, Jack Nielsen, and Ed Gabriel totaled 2,273 for the three-game tourney set.

Among the individual scratch highlights were Betterino's 639, Maggie Gaynor's (Patchogue Mixed) 235-531, John Mica's 255, and Steve Lawrow's (Black loop) 241. Handicap winners were Mary Kallansrude (Century Mixed) and Pat Schelp (Monday Mixed), 620, and Mica, 672.

Alverson fires 67 to earn tourney berth

You could say, without being accused of any exaggeration, that Jim Alverson is something special. And not only because he happens to be a standout golfer. A couple of weeks ago he finished first in a 54-hole tryout for the Grumman golf varsity, and over the Memorial Day weekend Jim shot a sizzling 67, five under par, on Salisbury's Red course to qualify for the Metropolitan Public Links championship.

Even though Jim has a severely damaged right arm from a childhood auto accident and returned to work earlier this spring from a three-month bout with a coronary, it seems that the only thing that causes him real concern is his golf handicap. He figures that to be about three, and dropping. And when you get together with friends for a round of golf, there's bound to be a few Nassaus. Nobody wants a three at those times.

Come Tuesday, June 15, though, Jim will be shooting scratch against the best amateurs in the Metropolitan area when they meet for the Public Links championship at North Salem in White Plains. While qualifying for that event, Jim turned in an impressive performance on the rugged Red course at Salisbury. Touring the 6,474-yard layout, Jim carded a birdie-3 on the 503-yard third hole, then dropped a 60-yard wedge shot on the 335-yard eighth for a dazzling eagle-2. Rounding the turn at 33, he added birdies at the 467-yard 12th and 405-yard 15th to finish with 67. He's something special!

Season standoff

Although the Shadows overtook the Unpredictables about half way through the season and proceeded to run away from the rest of the Babylon Mixed League, it was more like a Mexican standoff between the two top bowlers in the loop, Ed Gabriel and Steve Cominski. The league chase wound up last week, and the Shadows, on Gabriel's 247-597 wrapped up the title with ease, while the Pin Pushers finished second and the Unpredictables, on the strength of a sweep over the Popcorns, closed in third.

Gabriel and Cominski shared top average of 187, and just about split everything else, too. Gabriel's 277 was high game over a 257 by Cominski and Steve Jordan. But Cominski earned series honors with 684, one stick higher than Gabriel's best this season.

Zarod leads Cats

Al Zarod finished with 43 to edge Carmine Lagnese by a stroke in nine-hole play on the Bethpage Green course. Frank Salentino, Tony Lombardi, and John Dalessio had 45s. Al Burger and Sam Avati, although not among the top scorers, lead the team chase by five points over Joe Symanski and Dalessio. Dick Moulton and Tom Schindler are five points farther back.

at your SERVICE

This is a free service to Grumman personnel for non-commercial advertisements, accepted on a first-come, first-served basis. Classified advertisements are carried in PLANE NEWS only on the basis that everyone replying to such advertising will receive fair and equal consideration regardless of their race, creed, color, or national origin.

Type or print ad on form available at Employees Service and Engineering counters, and send via interplant mail to PLANE NEWS, Plant 5, Bethpage. List home phone (with area code if outside Nassau or Suffolk). Limit: one ad per person per issue. No item under $10, no firearms or ammunition.

For Rent

ROOM: 2 mi. plant, pvt. ent. & bath, gent. only. PY 6-4210.

ROOM: Farmingdale, furn., pvt. ent. & bath. MY 4-2059.

ROOM: Nr. Grumman plants. WE 5-2466.

HOUSE: Hicksville, 8 rm., 2 bath, blt. in pool, gar., conv. locat., $350, security. 271-7228.

DOCK SPACE: Amityville, water, elec., boardwalk. 691-8453, after 6.

TENT TRLR.: Camp., slps. 4, Universal auto hitcr avail., $6/day, $15/wkend. CA 1-3625.

APT.: Islip, mod. 3½ rm. unfurn., yg. work. couple, $175/mo. incl. all util. & refrig. 234-0383.

TENT TRLR.: Slps. 4, Universal auto. hitch avail., $6/day; $15/wkend. 744-6903.

ROOM: E. Meadow, lrg. furn., pvt. ent., bath, TV, refrig., 1 blk. shops, gent. only. 33-7849, after 4:30.

HOUSE: Middle Island, unfurn., 2 bdrm., $175/mo. 732-9074, after 5.

HOUSE: Hampton Bays, furn., 3 bdrm., gar., dinette, bsmt., o.h.w., Sept. thru June, $160 plus util. ED 4-3015, after 6.

SUMMER COTTAGE: E. Hampton, 2 bdrm., nr. water, 3 mile harbor area. PY 6-8369.

HOUSE: Hampton Bays, 3 bdrm. ranch, ½ blk. Shinnecock Bay, 5 yr., avail. 6/28 thru 7/31, $650. ED 4-3015, after 6.

Wanted

APT.: Unfurn., 2½-3 rm., pref. pvt. house nr. Queens-Nassau border. CH 8-8927, evgs.

ADAPTER: Stereo multiplex, for use w/Pilot FA-670, FA-680 or FA-690, FM-AM tuners, oper. cond. only. 747-3685, after 5.

LAWN EDGER: Pwr., gd. work. cond. & reason. 221-4842.

TOOLS: Suit. for aircraft. HA 3-6360.

MISC.: Auto roof lug. stor. carrier to fit in roof rack. 724-3962.

TRAIN: Lionel set w/track & access. JU 8-7184.

APT.: 3 rm., for yg. cpl. Nassau or W. Suffolk, July/Aug. occup. LT 9-5571, evgs.

APT.: E. Meadow, Levittown, Hicksville vic., 3-4 rm., unfurn., yg. work. cpl., Aug./Sept. occup. 212 347-2627.

APT.: 3-3½ rm., W. Nassau area, yg. work. cpl., Aug./Sept. occup., approx. $180/mo. MO 7-2686.

MISC.: Driver's side half of Hooker hdrs. for '64-'69 GTO, other types for GTO consid. any yr. 667-3893.

Ride Wanted

LONG BCH.: L.I.R.R. sta. to Plt. 2. GE 2-3311.

Car Pool

OAKDALE: To Plt. 6 or 7, or occas. ride, 8-4:30 p.m. LT 9-3530.

For Sale

PUPPIES: Std. poodle, AKC, whelp, 5/14, champ line. AN 6-1976.

FORD: '65 Galaxie 500 conv., V-8, 352 c.i., 4V, auto., R&H, brown, blk. tp. & int., orig. owner, $550. JU 7-2636.

VW: '65 red Bug, 31,000 mi., snows, ask. $700. 541-7530.

PICKUP: '56, ¾ ton International, 8 ft. flat bd., $125. 538-8313.

HOUSE: Amityville village, 4 bdrm. cape, fin. bsmt., fenc., patio, carpet, $27,500. 598-3646.

GUITAR: Elec., Guild, semi- acoustical, case, $85. 742-4038.

GENERATOR: 2,000w, 120v, Briggs & Stratton, eng. MY 2-6582.

LAWNMOWER: 20 in. rotary, 3 hp B&S eng., cast alum. deck, adj. whls., grass catch., $20. 587-8323, after 5.

PLYMOUTH: '790 Road Runner, 383 c.i., pwr. steer. & bks., stick shift, new tires, tape, 11,000 mi., $2,900. 653-5356.

T-BIRD: '63, 2-dr. wh. hdtp., 390 c.i., full pwr., tilt whl., bkt. seats, snows, garaged, $625. 212 464-2921, evgs.

SAAB: '64 Monte Carlo GT, Pirelli radials, 3-carb, disc bks., $550. 427-9678.

CORVETTE: '62, 327-300 hp, 4-spd., orig. stock cond., $1,650. 724-5978.

VW: '68 sed., FM/stereo, tape deck, 2 spkrs., $1,225. 234-1281.

FIAT: '67, 850 coupe, blk., 21,000 orig. mi., 25 mpg, $700. 724-7015.

MOTORCYCLE: '70 Kawasaki Mach III, 500cc, cust. seat, fend., 2 bars, sissy rail, just tuned, low mi., $950. 567-3718.

HONDA: '70, CB175, low mi., lug. rack, 2 helmets, $550. 887-1674.

BOAT: 17 ft., 50 hp outbd., '67 Merc. elec. start., 1 gas tank, full controls, hi-free BD, full wndshld., 7 ft. beam, $525. CH 9-2663.

BOAT: 13½ ft. Sailfish, $75. 427-2786.

HOUSE: Brentwood, nr. So. State Pky., ½ acre fully lndscpd., 4 bdrm. hi ranch, w-w, s-s, 2 car gar., xtras. 277-9719.

PUPPIES: Siberian husky, AKC, blue eyed & mask., blue eyed & wh., male, fem., $125-$175. 928-0710.

SIBERIAN HUSKIES: Sired by Northeast champ, rare reds, male or fem. 273-9627, after 6.

PUPPIES: Boxer, champ sired, flashy fawn. OV 1-7381.

PUPPIES: Airdale, AKC, champ sired, whelp, 4/12, DHL shots, dock, tails, dew claws removed. FL 2-9359.

PUPPIES: Great Dane, Harlequin-Merle. 585-1692.

HORSE: Bay gelding, 15.1, Eng., ribbons, $350. 281-6196.

BAY GELD.: Reg. Amer. Std. bred, 6 yr., well manner., $400. 588-5184, evgs.

BOAT: '61 Ulrichsen flybridge Sportsfisherman, 210 hp, f.w.c., Crusader eng., S/S, depthfind., summer & win. canv., bilge pump, 2 compasses, anchor, dock lines, cush., life preserv., Save-cote paint., fish well. WE 5-2621, after 5.

BOAT: 23 ft. Maycraft, 100 hp Gray, $800. 473-1671.

BOAT: 25 ft. Luhrs Sportsfiisherman, '60, 185 hp Gray, reblt. late '69, flybridge, S/S, new. paint., rdy. for water, xtras, $2,500. 536-4098, after 6.

BOAT: '66, 14 ft. fbgl., 40 hp Evinrude, Navy tp., elec. start., access., trlr., $850. 223-0920.

MISC.: 15 ft. runabout, trlr. & access., $200. 585-8359.

HOUSE: Medford, 3-4 bdrm., 1 ft. fam. rm., eat-in-kit., ext. panel., 100x152 fenc., 1½ bath, pool, $23,500. 289-8681.

HOUSE: Deer Park, cust. 4 bdrm. Col., panel. & beam. fam. rm. w/firepl., 2½ bath, 2 car gar., 80x288 wood. plot, $39,900. 586-4471.

HOUSE: Three Village sch. dist., 4 bdrm., Col. type, bsmt., non-development, upper 30s. 212 462-5941.

HOUSE: E. Islip, 3 bdrm. Col., den, carpet., fenc., patio, sundeck. 581-3469.

BOAT: '58 Owens, 22 ft. cab., slps. 2, '66 Chevy, 8 cyl. inbd., s-s, fully equip., port. TV hookup, rdy to go, $1,500. JU 6-439, after 11 a.m.

BOAT: 15 ft. cedar lapstrake Skiff, $200. 878-2750.

MOTOR: '70 Johnson 40 hp outbd., lg. shaft & tanks, used 10 hrs., $425. JU 8-4291.

For Sale

CHEVROLET: '66 Impala 4-dr. hdtp., V-8, auto., R&H, cruise cont., poly tires, $695. PY 1-6680, evgs.

VW: '66, blue, sunroof, nds. work, best offer over $500. 585-2556.

MOTORCYCLE: '67 Bridgestone, 350cc, 5,600 mi., $425. AN 6-2046, after 6.

MOTORCYCLE: '69 Honda, 450 DOH, 4-spd., blk., & chrome, low mi., $570. 212 779-6362.

MISC.: Cust. motorcycle seat, $25. 732-4767.

TEXT BKS.: College, "Elements of Math" & "Gen. Psychology." 271-9097.

CAMERA EQUIP.: Minolta auto zoom 8 f1:1.4 movie, 8.5-34mm lens, $40; Minox B w/case & flash attach., $50. 378-4869.

MINI BIKE: 10 in. whls., internal rear bks., 3½ hp Tehomer eng., $75; Briggs & Stratton gas eng., 6½ hp, recoil start., $30; 26 in. lgt. wgt. girl's bike, $10. CH 9-4884.

TRACTOR: Graveley, w/rid. sulky, 24 in. chain saw, 30 in. rotory mower, 30 in. reel mower, 40 in. sickle bar, 24 in. snow blower, $450. 744-3246.

HOUSE: Huntington, 4 bdrm. ranch, 2 bath, s-s, hot water heat, lndscpd., L shaped pool, approx. 1 acre, $55,000. 549-4845.

HOUSE: Smithtown, 1/3 acre, 3 bdrm. Col., 1½ bath, 23 ft. liv. rm., eat-in-kit., formal din. rm., 22 ft. fam. rm., fin. bsmt. w/bar, patio, pool, fence, low tax, $32,990. 724-1469.

PROPERTY: 1 acre on Randall Rd., Wading River, nr. 25A & village. JU 8-7855.

RANGE HOOD: Copper, antique hammered fin., 41 in. long. OV 1-7381, after 5.

HEATER: 15 gal. elec. hot water, $15. 799-5945.

MISC.: 10 in. tilt. arbor tbl. saw, 1 hp cap. motor, Sears Craftsman, 110/220 v, ball bear., thermal o'load w/manual reset, 3 blades, 1 carbide tip., $100. 798-5459, after 6.

POOL: 24x4 Sharkline, ladder, filt., skimmer, vac., xtras, ask. $125. MY 4-5884.

MISC.: 3, '39 Mod. A rims & tires, $15; 1 roll bar for A.H. Sprite MK I & II, $25; refrig., freezer, '66 Chevy van, wind., rear seat, $750. 588-5696.

WASH. MACH.: 16 lb. cap. Kenmore, non-suds mod., 8 yr., manual cycle chg. (or replace timer for auto.), best offer over $60. 757-5755.

COAT: Blk. Persian lamb w/mink cuffs, sz. 12-14, $100. 584-7821.

MISC.: Trumpet, $100; clarinet, $75. WE 5-0885.

MISC.: Snare drum, cymbal, std. & case, blue sparkle, $30. 751-5912.

RENAULT: New tires, bks., & clutch, low mi., R&H, $250. Ed Hanson, Ext. 57-281.

CORVETTE: '67 Stingray conv., 327 c.i., 300 hp, 12,000 orig. mi., stereo. 212 265-7669, bet. 6 & 8 p.m.

FIAT: '70, 124 Spyder, 5-spd., AM/FM, 2 tps., 2 radial stud. snows. 938-2110, bet. 5:30-6:30 p.m.

TRIUMPH: '63, Herald 1200 for parts, 4 new 5:20x13 tires mtd. & 6v batt., ask. $40. SU 1-0277.

OLDSMOBILE: '65, 98 sed., air cond., all pwr., new tires, snows on sep. whls., xtras, $900. WE 8-0282, after 7.

Ham radio club sets field day

On Saturday and Sunday, June 26 and 27, the Grumman Amateur Radio Club will participate in the American Radio Relay League Field Day. The purpose of this annual drill is to test the emergency capability of the Amateur Radio Service. The goal is to complete as many two-way radio contacts as possible with other "ham" radio stations during a 24-hour period while using portable emergency equipment.

Participants will gather at 10 a.m. at McKay Field in Bethpage on Saturday, June 26. Stations will be on the air from 3 p.m. Saturday to 3 p.m. Sunday. Whether a licensed ham or not, all interested Grummanites are welcome to attend. If you are an amateur, you must have your license with you in order to operate. Further information is available from the club secretary, Emmett Goodman, on Ext. 87125.

For Sale

ENCYCLOPEDIA: 1 unopen. set World Book. PE 1-6092.

POOL: 15 x 3½ Sears, 2 yr., filt., ladder, skimmer, vac., bag of diatammacious earth, $75. WE 5-3179.

MISC.: 2 rotary dawnmowers, nd. work, $12;; 2, '64 Chevy. Impala 14 in. rims. 269-6573.

CARR.: Bilt-Rite baby coach, blue & wh., matt., $30. MY 4-7437.

HOUSE: Levittown Cape, 3 bdrm., liv. rm., din. area, kit. & bath on 1st fl., bdrm., kit., bath, util. rm. on 2nd fl., attach. gar., ask. $31,000. PE 5-1472, after 5.

HOUSE: Stony Brook Strathmore, 4 bdrm. Cape, 2 comp. bath, 2 car gar., all major appli., s-s, patio, 1/3 acre, $28,700. 751-3524.

HOUSE: E. Northport, 3 bdrm. split, ½ acre, 1 full & 2 half bath, panel, fam. rm., lrg. sundeck, tiled bsmt. w/study & workshop, carpet., dishwash., $37,900. 368-7820.

HOUSE: Bethpage, 3 bdrm., panel. eat-in-kit., air cond., sep. din. rm., air cond., all elec., raised cov. patio off kit., w-w, appli. PE 5-0857.

HOUSE: Huntington, all brick split, 3 bath, 2 car gar., $42,500. AR 1-1252.

HOUSE: Plainview, 3 bdrm. split, all appli., $37,900. WE 5-9868.

MISC.: Din. rm. tbl., fold-over type tp., xtra leaves & pads, $48; kit. tbl. w/3 chrs. yel. formica, xtra leaf, blk. iron legs, $36; Ital. Prov. grn. uphol. chr., $22. 271-1617.

DIN. RM. SET: Tbl., 5 chrs., buffet & china closet, $100. WE 5-0885, after 6.

COUCH: 2 pc. Spanish, drk. carv. wood, plush yel. & gold cut vel., 2 mo., $600. WE 8-7919.

MISC.: Col. bedrm. set, 2 dress., 2 end tbls., mirror & hd. bd. w/posts, 1½ yr., ask. $500; Col. end tbls. & lamp, ask. $50 both. 427-2761, after 6.

ADD. MACH.: Elec., 10 position keybd. 724-3890.

RECV'R.: Communications, Hammarlund HQ-100A, freq. cov. to 30 mc, $90. 483-1841.

MARINE ENG.: Marvel mysteary oil tp. cyl. oiler, $10. MO 9-7714, after 6.

REEL MOWER: Elec., self prop. w/catcher, $25. OV 1-7381.

CLAMBOAT: 20 ft. Garvey, wlk. on deck w/cab., 1 yr., rdy. to go. MO 7-8872.

MINI BIKE: '70 Stellar Maxi, 6 mo., 3.5 hp Tecumseh, 12 in. Knobby tires, cast rims, front & rear chrome shocks, pivot susp., fend., $150. CH 9-8411.

MINI BIKE: '70 Rupp Scrambler, 3½ hp Tecumseh, front & rear shocks, spoked whls., torque conv., $190. LT 9-6837.

MISC.: 1½ to 1 reduct. gear, Interceptor eng., gen. & start. MO 9-0285.

TIRES: New 4 ply VW, 5.60x15, $18; 5 hole rim w/mtd. tire, $10. 212 663-7611.

MISC.: '68 Apache Mesa II camper, slps. 6, full canopy, scrn. dr., spare tire, gas tank, heat., cab., xtras, $875; 14 ft. 8 in. Amer. fbgl. boat, uphol. seats, steer. whl., windshld., controls, 45 hp Merc outbd., nds. tuneup, $225. 864-7165.

AUTO PARTS: Elderbrock alum. hi-riser manifold, $30; 2 dual pt./coil dist., $25; set blk. bkt. seats for Mopar 440, $20; set hds. 389 eng., $25; hi perf. 283 eng., rework., comp. w/bellhousing, $100; front end cupped, $50; posi rear, $50; 3-spd. trans., $15; for '55 Chevy. TU 8-3114.

WIND. UNIT: Comp. ranch type, 2½x10, incl. storm wind., $15. 785-6653.

AIR COND.: York, 208-230V, 12,000 BTU/hr., $100. 741-2573.

MISC.: Baby crib, fold. coach carr., car seat, $40; Paragon oil burner motor & pump, $20. 822-1088.

BLUE SLATES: 1st qual., 150 avail.; Lgt.-o-lier pole lamp w/tbl., $45. MO 7-8350, after 6.

GOLF CLUBS: Spalding, 1 & 3 woods, 3, 5, 7, 9 irons w/golf bag, $20. 868-0902, after 7.

YEWS: 8 in. seed., ind. potted. MY 4-6044.

STA. WAG.: '66 Rambler, 6 cyl., std. w/o'drive, indiv. reclin. seats, Sears steel blt. radial tires, $600. JU 1-2396.

MUSTANG: '69, 302 V-8, auto., pwr. steer. & bks., fact. air, new radial tires, 32,000 mi., $2,050. 473-7787.

CHEVROLET: '63, 4-dr. sed., 6 cyl., auto., pwr. steer., radio, ask. $300. 472-0432.

CORVETTE: '67, maroon w/blk. tp., 327 c.i., 350 hp, wide ovals, alarm, AM/FM, $2,300. 826-8970.

PONTIAC: '66, 4-dr. hdtp., V-8 auto., pwr. steer. & bks., vinyl roof, new bks., just tuned, orig. owner, 48,000 mi., ask. $750. FO 8-5722.

STA. WAG.: '65 Ford, 6 pass., 390 c.i., 2-bbl., full pwr., lug. rack, 4 new wide oval w/w, $900. 586-2095.

For Sale

STA. WAG.: '67 Plymouth Fury II, 9 pass., $1,350. WA 1-0026.

MISC.: Sma. anchors & 7 ft. oars, will sell sep. 669-5905.

MGB: '67 blk. conv., red int., low mi., best offer. 727-1194.

PONTIAC: '70, 2-dr. Catalina, pwr. steer. & bks., air cond., auto., w/w, rear spkr., vinyl roof & int., Ventura trim, $2,750. Fred Haul, Ext. 2377.

JAGUAR: '66 XKE, 2+2 auto., recent. o'haul transm., Dunlop SP Radial tires, Stebro exh., air cond., 8 trk. stereo radio & tape, chrome wire whls., $2,150. LI 1-1460, after 5.

CADILLAC: '60, best offer. 543-0104.

ROADRUNNER: '69, Hi-perf 383, auto., pwr. steer. & discs, alum. whls., F70 poly & 2 snows, AM/FM, 34,000 mi., orig. owner, $1,950. 588-3091.

VW: '70 Variant sed., 13,000 mi., European mod., $1,890. MY 2-5126.

GTO: '67 Pontiac, maroon w/blk. vinyl tp., wh. uphol., snows, $1,490. 757-7840.

CHEVROLET: '65 Impala hdtp., new auto. & front end., pwr. steer & bks., just tuned, dented fender, ask. $550. PE 5-5256.

FORD: '65 Country Squire, 6 pass., 390 c.i., 2-bbl., 4 new tires, $900. 586-2095.

HOUSE: Islip, 4 bdrm., cust., brick & cedar, 2½ car gar., 2 tiled bath, full fin. bsmt., 3 zone o.h.w., plaster, w-w, s-s, cov. slate patio, 100x100 treed, lndscpd., copper gutters, oak fls., xtras, $35,000. JU 1-9332.

OLDSMOBILE: '70, F-85, lgt. blue, 3,900 mi., pwr. steer., auto., 6 cyl., 2-dr., $2,275. MO 7-1427.

DATSUN: '71, 240F w/Pirelli snows, make offer. 234-7997.

WAGON: '67 Pontiac, new tires, $1,500. 586-1477.

CHEVROLET: '62, 2-dr., stick shift, $125; G.E. air cond., 13,000 BTU, 230v, $150. OV 1-4346.

TIRES: Goodyear cust. poly, blk., 700x13, 2, $15/ea. IV 5-7909.

CHASSIS & ENG.: Late '61 VW, suit. dune buggy, $100. 864-5933, after 5.

SURF BD.: 9 ft. 8 in. Challenger, $75. like new. Call Sue, 516 546-6194 after 7:30 p.m.

MISC.: Wh. enamel shower stall & fram., $20; studio couch, $0; s-s dr., 29x90, $15; World Bk. encyc. set, $20; baby stroller, $12; 775x14 tires, $10; wgts. & barbell, $12; 2 brass torchere fl. lamps, $15; New 4 ft. Sears formica counter tp., splash bk., $12; 26 in. girl's bike, $16; liv. rm. couch, $75; 10x12 red wool rug, $50. 889-9813.

BOAT: '69, 25 ft. fbgl., 210 hp inbd./outbd., canopy tp., slps. 4, comp. equip. MO 9-7229.

BOAT: 16 ft. fbgl. M.F.G., windshld., 50 hp Mercury elec. start., just serviced, water skis, xtras, will demon., $900. MO 1-3648, after 5.

EVINRUDE: New 18 hp w/gas tank, xtra prop., carrier/std., oil & lubricants, $400. IV 6-2720.

BOAT: 16 ft. fbgl. Lone Star, 60 hp Johnson elec., Lone Star trlr. w/jack, Navy tp., side curt., compass, tach, fire ext., ladder, cush., rod hold., 3 fuel tanks, full canv. cov., $1,200. AN 1-4720.

OUTBD.: '60, 18 ft. Shoup Princess, '66, 50 hp Mercury outbd., fully equip., in water, $1,250. PY 1-6382.

OUTBD.: '69, 33 hp Evinrude, ski-twin, elec. start., tank & controls, $425. AR 1-2919.

BOAT: 12 ft. Arkansas Traveler, grn., hvy. gauge alum., oars & locks, anchor & rope, $100. NA 8-2638, after 6.

BOAT: '69 Glaspar Avalon, 15 ft., '70, 50 hp Mercury elec., '69 Holsclaw trlr., vinyl tp., access., $1,900. 423-1481, after 5.

BOAT: '50 Chris Craft spd., 22 ft., rebit. 130 hp, new varnish, seats, carpet, canv., Navy tp., pd. dock., trlr., S/S, dink, moor., skis, xtras, $1,850. 732-2525.

UTIL. BOAT: 21 ft., '55 Correct craft, dbl. plank., seats 8, 7 ft. 8 in. beam, 21 in. draft, 100 hp Gray inbd., 50 gal. tank, Navy tp., xtras, $1,700. 421-5589.

STAMPS: Worldwide, arranged on stock pgs. & glassine envelopes, maj. w/catalog #, gd. approv. or retail mat., $190. 735-7082.

BRICKS: New yel. face, 4,000 avail., pick up. JU 1-2740.

WHLS.: 3, 13 in. Corvair; 2, 14 in. 5 lug Chevy; 3, 20 in.xl.75; 2, 24x2.125; 26 in.xl-¾ front rac. 271-4486.

MISC.: 19 in. wind. fan, adj. dbl. hung. auto. thermo., $25; Sears 21 in. reel lawnmower, chain driven, $20. 796-3128.

WATER PUMP: ¾ hp jet, 82 gal. tank w/access., used 4 yr., make offer. AN 5-3713.

For Sale

CORVAIR: '68 Monza sport coupe, 27,000 mi., auto., bkt. seats, $775. 888-4662.

VOLVO: '67, 122-S, 2-dr. sed., drk. grn. w/tan int., 53,000 mi., AM/FM, $1,050. 427-2054.

PLYMOUTH: '68 Roadrunner 426, Hemi eng., xtras, $1,700; '33 Plymouth coupe, Hemi eng., will sell w/wo eng. AN 5-4064, after 6.

OLDSMOBILE: '63, 4-dr., R&H, hydra, pwr. steer. & bks., 60,000 mi., $500. SU 5-1597.

GTO: '66 Pontiac, grn., 4-spd., new trans., carb, start., batt., & air shocks, $1,000. 785-3443, after 5.

KARMANN GHIA: '65 blue, rebit. eng., 9,000 mi., new batt., front end susp., mtd. snows, $925. AT 9-3870.

MG: '65 Midget, 1250cc, new trans. & soft tp., wire whls., $450; '62 MG Midget, parts, bdy., 2 hds., 1 blk. 950cc, 4 whls., rear end, frame, new windshld., best offer o'$50. 694-3537.

RAMBLER: '65 Amer., o'drive, radio, nds. bdy. work, $125. HA 7-7286.

FORD: '70 Torino GT, gold, saddle int., 351 c.i., 4V, 3-spd., auto., pwr. steer. & disc bks., AM/FM stereo w/ rear spkrs., rear defogger, bkt. seats & cons., away lgts. 586-0016, after 6.

RENAULT: '59 w/'65 eng., $50. 732-3552.

VW: '63, FM/AM, $250. 671-0517.

LOTUS ELAN: '67 blue conv. w/blk. tp., AM/FM, Stebro exh., 6 new tires, $2,200. 741-3500, Ext. 752.

VW: '69 sed. Bug, $1,450. 433-8178.

HONDA: '66, 305cc, elec. start., new batt. & clutch, $350. 671-0517.

TENT TRLR.: '65 Wayfarer w/attach. fam. rm., $300. 643-7217, after 6.

HOUSE: W. Babylon, waterfront, 80x125, 4 yr., bulkhd., boardwalk, 8 rm., 2 tiled bath, hi-rise ranch, 2 car gar., redwood sun deck, appli., prof. lndscpd. & maint., xtras, $55,000. 587-9553.

HOUSE: Bethpage Estates, hi-ranch, 3-5 bdrm., cul-de-sac, maid rm., ldry., playrm., fam. rm. w/beam. ceil., cent. air cond., s-s, w-w, 4 appli., botan. gardens, Fla. cov. patio, gar., o.h.w. 2-zone, 2 bath, ¼ acre, $16,000 lndscp., ask. $55,000. 938-6140.

HOUSE: Lindenhurst, 4-5 bdrm. col., 2 bath, din. rm., s-s, 75x100, 1½ car gar., xtras, $28,500. TU 4-4656.

HOUSE: Col., 7 rm., lrg. lot, fenc. & lndscpd., bsmt., gar., xtras, sch. dist. 5, low 30s. 643-7501.

HOUSE: Huntington, 3 bdrm. split, 1½ bath, fam. rm., gar., ¼ acre, air cond., dryer, low 5¾% mtge., $31,500. HA 3-4888.

HOUSE: Deer Park, 4 bdrm. split, lrg. eat-in-kit., playrm., fin. bsmt., 1½ bath, s-s, w-w, all appli., air cond., fenc. yd., attach. gar., immed. occup., ask. $31,500. 667-9691.

FURN.: 5 pc. liv. rm. sect., best offer. SU 1-4230.

RM. DIVIDERS: 2 all wh., wood, fold., 64x51, $10/ea. 666-6138.

FURN.: Din. rm. set, tbl., 6 chrs., buffet & china closet, $125; liv. rm. set, Castro conv., 2 chrs. & coffee tbl., $175. WE 5-0885, after 5.

TV: 19 in. tbl. mod., Motorola, $40. 757-8535.

BDRM. FURN.: Antique wh., dbl. bd. w/hdbd., 2 wall mirrors, 3 end tbls., 1 dbl. dress., $300 or best offer. 212 268-2862, after 6.

plane GRUMMAN news

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Editor
Brian Masterson

Associate Editors
Claire Imrie
Al Wehren

Ads, Distribution
Dorothy Zeeb

Official Photographers
Presentations Services

Telephone
Plane News: 3293
Plane News from outside line:
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ATS giving instant read-outs on maneuvers of F-14 in flight

"Why do flight-test engineers have to wait two weeks after a flight for test results? Why can't we provide the enormous advantages of today's computers to the flight-test analyst when he needs it most—during the test flight itself?"

These were the questions Ray LeCann asked his staff back in 1967 that led to the creation of the Automated Telemetry System. "Sure," says Ray, "there were plenty of reasons why it couldn't be done—but they weren't enough to discourage the team we had assembled to surmount them."

Gerry Kimmins and Tony Josepher picked up the task of designing a computer controlled telemetry station that would give engineers the ability to analyze test results while the flight was actually taking place. George Obergfell and Jim Dart led the programmers who developed the software that made the system tick. The Grumman Data Systems team that developed ATS brought to it vaulable experience they had gained in creating the LM Data Reduction System, used to support final engineering acceptance tests of the moon vehicle, and earlier aircraft flight-test data systems.

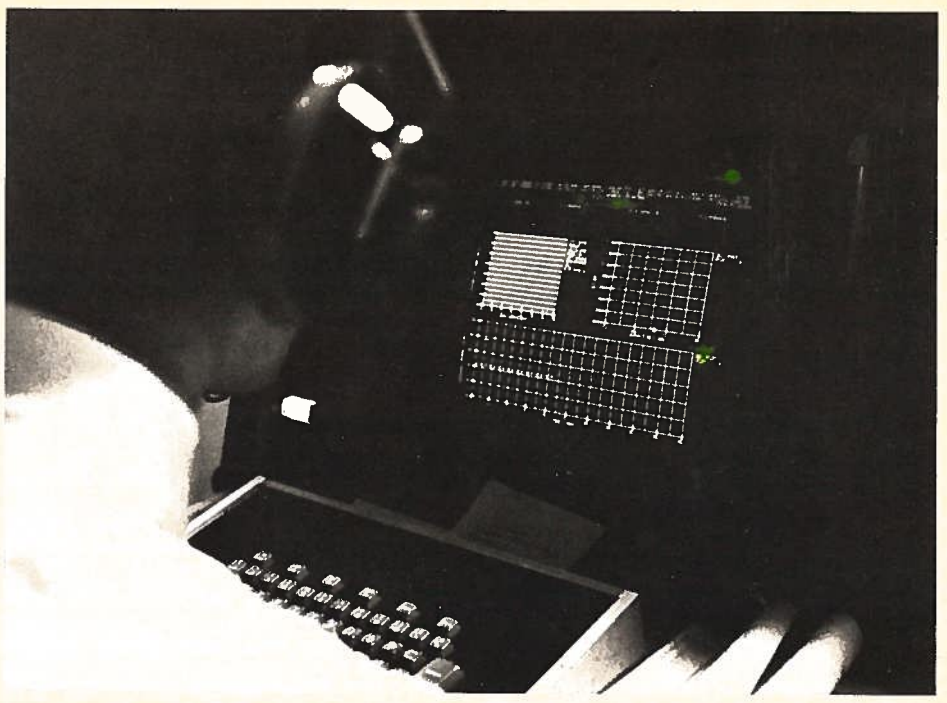
As Gerry Kimmins explains: "We were able to combine all the proven hardware systems developed to support LM ground-test data reduction with the real-time computational techniques developed and proven at M.I.T. In other words, we married the most advanced hardware systems developed to support space flights with real-time computing techniques. It gave us a flight-test system in which man can talk to a computer **and get back instant answers.** That combination is still unmatched in the aerospace industry."

Key contribution

The team that developed ATS has provided a significant contribution to No. 2 Tomcat's unmatched test success of the past two weeks. As Ray LeCann, director of the Real-Time Telemetry Processing System, sees it: "Never before have we been able to support 10 test flights of a single prototype vehicle in nine working days—and all that with every piece of significant data available to the team before each subsequent flight. Why, without ATS, it would take two weeks to provide final test data on one flight alone!

"Now we are competing for the design of a similar system for the Naval Air Test Center at Patuxent River, Md. Grumman Data Systems is working to bring to the Navy's most active aircraft test center the same type of on-the-spot answers that Grumman analysts have found so vital to the safe and timely completion of their flight tests.

"With this system," LeCann says, "the Navy will be able to conduct its service testing in a more rapid, more comprehensive, and more effective way, ensuring the Fleet better proven aircraft systems in much less time and at lower cost."



Flight report. **Flight test analyst Dick Savadsky watches as test data generated during F-14 flight are displayed instantaneously on cathode ray tube in Automated Telemetry System facility at Calverton. GDS has designed this flight-test system so that information is presented in final-report form.**

Personnel Development can provide assist to career objectives

People — human resources — are the critical ingredients in any business as far as Charlie Fuschillo is concerned.

In his job as manager of Personnel Development in the Personnel Department, Fuschillo does more with that "pearl of wisdom" than merely meditate on it and derive philosophical delight. With him, it's a principle to be turned into action, and he does just that, daily.

"Actually," says Fuschillo, "our group here serves the individual employee—helping him to realize his potential in Grumman and, thereby, strengthening the Company. We do it through concrete placement programs, such as JOB (Job Opportunity Bulletins), SPO (Supervisory Promotional Opportunity) bulletins, and transfer arrangements.

"It should be stressed, too, that Corporate policy is to fill job vacancies from **within.** Only when we can't find the requested skills in house do we go to the outside job market."

But all this is getting ahead of the operational story, which is the meat of the activity. Take JOB as a starter. Each Monday (or the first day of the work week) a list of job openings in Grumman Aerospace Corporation is posted on all plant bulletin boards, from Garden City to Calverton, and in all Employee Services offices, and it remains posted for a full week. Any employee with a year's service, who hasn't been transferred through Personnel Development during the current year, is eligible for consideration. Naturally, he must meet the job requirements listed in the specific Bulletin. Then a call to Personnel Development sets the wheels turning. An interview could follow . . . and possibly a new job.

By the way, it's **suggested** that an employee notify his supervisor of his intentions before calling Personnel Development (Ext. 1523), but that is not mandatory.

SPO is a similar process: If you believe that you're qualified for one of the supervisory jobs described in the weekly bulletin, you should file a Supervisory Review Request form. That form, like the JOB one, is available at Employee Services offices and administrative counters.

Department heads must notify Personnel Development of promotional opportunities in their area so as to be sure that they have a full list of qualified people from which to judge. To be certain that eligible employees have been considered, Personnel Development requests a minimum of 10 working days for review.

Periodic reviews

Each SPO request form remains in active file for a full year, and there is a continuing review as supervisory job openings occur. To assure that all those who are eligible will be reviewed when job openings materialize, all current SPO requests are looked over.

In addition, each person in Grumman Aerospace has had his primary, secondary, and third-level skills coded and put on computer tapes. With this easily retrievable information system, when a job opening pops up, up pop the names of people who may qualify for the job. In this way, the reservoir of in-house talent is continually tapped. This gives the employee and the Company the best assurance that the right person gets into the right job.

To get back to SPO (and JOB, for that matter), it is not a dry, impersonal selection "machine" that decrees by computer who winds up in what job. Not by a long shot! No one gets into a new job without **personal** interview, first through Personnel Development, and second through a supervisory person in the department affected. All along, it's a human selection based on SPO or JOB review requests, and, at times, the computer search into the whole reservoir of available in-house skills.

There are other facets of Fuschillo's employment task, too. "It may be in the interest of an employee as well as the Company to make lateral transfers—that is, to have a person move from one department to another without loss of pay. That's our job, too. We also process requests for personnel made by any of the Grumman subsidiaries. Again the theory is to see if there's anyone in Aerospace who can fill the job before you start tapping the outside labor market," says Fuschillo.

There is evidence that this relatively new Personnel Development placement system is working—and getting better and better results. "In all of 1970," Fuschillo says, "we conducted 1,182 interviews and 305 employees were placed successfully. Through May of this year, there have been 235 interviews and 138 placements. So the batting average is good."

It's been very good indeed when you consider that 150 people who might have lost their jobs last year because of the reduction in force (RIF) found jobs in other sections of the Corporation, and the figure so far this year is 64. So **saving** jobs has also been an important part of Fuschillo's role.

Fuschillo is a member of the Company's Termination Review Board. When there's an upcoming RIF—when an employee may be terminated **solely** because of lack of work, **not** for poor performance—it is Fuschillo's job, under Corporate policy, to review each case "for possible placement within the Company and consideration for employment in the outside labor market." In other words, everything possible is done to keep an employee, and, when that's not possible, to help him find a job outside.

"And I want to mention, too, that all of us in Personnel Development are looking ahead to new services," says Fuschillo. "We're pushing a Career Development program that we hope will help employees to improve their potential; and we're working on PRAIS (Personnel Records Analysis Information System)..It's all part of the human resources effort—the realization that our greatest resource is our people."

Charlie Fuschillo
People are his business